DOCUMENT RESUME

ED 197 117 CE 027 688

AUTHOR	Pearsol, James A.: And Others
TITLE	Assessment of the Career Planning Support System. Final Report.
INSTITUTION	Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Nov 79
GRANT	OB-NIE-G-78-0211
NOTE	190p.: Some pages may not reproduce well due to light and broken print. For related documents see ED 143 866-877.
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Attitude Measures: *Career Development: Career Education: Career Guidance: *Educational Planning: *Program Development: *Program Effectiveness: Program Evaluation: Secondary Education: *Teacher Attitudes
IDENTIFIERS	*Career Planning Support System: *Support Systems

ABSTRACT

The National Center for Research in Vocational Education conducted an assessment to report information about the impact of the Career Planning Support System (CPSS) on high school staffs' planning and career development activities for student career development. (CPSS is a package of materials designed to enable a high school staff to improve effectiveness of its career development program through systematic program planning.) The study used a pre-posttest, experimental and control group research design. Ten high schools used CPSS; eight did not. Two levels of measurement were used: (1) two data collection forms and a rating instrument to collect and rate information about each school's career development program and (2) test of CPSS knowledge and attitude scale related to systematic program planning to assess CPSS steering committee members in experimental schools. Findings indicated greater change in experimental than in control schools toward installation of a systematic plan for career guidance, higher quality career development activities in experimental schools, and increased knowledge of CPSS and favorable attitudes of committee members in experimental schools. (Appendixes, amounting to over 60% of the report, include assessment materials and forms and other materials related to the study.) (YLB)

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ED197117

FINAL REPORT

Assessment of the Career Planning Support System

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November 1979

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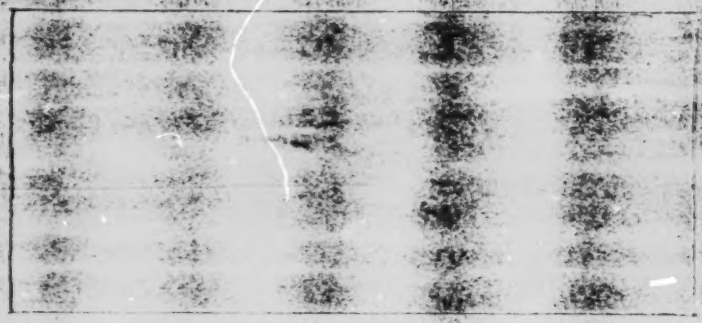

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- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

A Final Report on a Project Conducted Under
Grant No. OB-NIE-G-78-0211

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FOREWORD

The challenge to assist youth in gaining the skills and knowledge to plan for and acquire meaningful careers is a major concern of the educational community, particularly high schools. In response to this challenge, The National Center developed and tested, under sponsorship of the National Institute of Education (NIE), the Career Planning Support System (CPSS). CPSS is a set of staff instructional materials that show high school staffs how to deliver improved, cost-effective career guidance services that meet student needs and fall within the resources of the individual school.

This report documents a controlled evaluation of the CPSS conducted between June 1, 1978 and November 30, 1979. By using ten experimental (used CPSS) and eight control (did not use CPSS) high schools, National Center staff conducted a national assessment of the effectiveness of the CPSS. The results of the national assessment show that the career development programs in the ten high schools that used CPSS were significantly better than the eight schools which did not use the CPSS. We are pleased to report that, in a controlled evaluation, CPSS works.

We are deeply grateful to the staff in the high schools and school districts who participated in the assessment study. Their cooperation and consistent enthusiasm were central to the successful completion of the project. The names of the staff, schools, and school districts involved in the national assessment are listed in Appendix L of this report.

Additional thanks go to the project review panel who were required to rate anonymously the career development programs of the high schools participating in the assessment. The panel consisted of fifteen experts in the fields of career education practice and research. Their names are listed in Appendix C of the report.

Special thanks go to Robert I. Wise, NIE Project Officer, who provided support and guidance during the CPSS evaluation, to Dr. Paul Raffeld, instrument consultant, for his advice in revising the rating instrument, and to Dr. James Altschuld, consultant.

Finally, we are grateful to the project staff who planned and conducted the assessment of CPSS, Mr. James A. Pearsol, Dr. Ann R. Nunez, Mr. Vernon Padgett, Dr. Donald C. Findlay, Mr. Drew Denton, Ms. Susan Klaiber, and Dr. H. Lawrence Hotchkiss, Project Director. Special thanks go to Ms. Nancy Robinson, Ms. Debbie Frederick, and Ms. Debbie Cantan for their help in preparing for and typing the final report.

Robert E. Taylor
Executive Director
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in Vocational Education

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ABSTRACT

The National Center for Research in Vocational Education conducted the "Assessment of the Career Planning Support System" to report information about the impact of the Career Planning Support System (CPSS) on high school staffs' planning and career development activities for student career development.

CPSS is a package of materials designed to enable a high school staff to improve the effectiveness of its career development program through systematic program planning.

The study used a pre-post, experimental and control group research design. Ten high schools were assigned to the experimental condition, using CPSS, and eight high schools were assigned to the control condition and did not use CPSS. The high schools were located in eight different school districts in Arizona, Colorado, Florida, Illinois, Kentucky, Maryland, and Tennessee.

Each school provided a part-time coordinator who was responsible for the preparation and completion of data collection forms and served as the on-site contact person with National Center staff. In the experimental schools, this contact person also served as the CPSS coordinator and chaired a CPSS steering committee in the school.

Two levels of measurement were used in the study. The most important, or primary, level involved the use of two data collection

forms and a rating instrument. The data collection forms were completed at each school and were used to collect information about each school's career development program. The rating instrument was used by an external panel of experts to rate the information collected from each school on the data collection forms, both pre and posttest. The fifteen panel members represented professional fields related to career development research and practice. The instrumentation developed for the primary level of measurement was used to assess two major hypotheses: I- experimental school staffs, using CPSS, would demonstrate greater change toward the installation of a systematic plan for career guidance than would control schools, and II-experimental school staffs would develop a plan that contains higher quality career development activities to improve student career development skills than would control schools.

A secondary level of investigation involved assessments of CPSS steering committee members in the experimental schools. A test of CPSS knowledge and an attitude scale related to systematic program planning were administered to these school staff. The instruments were used to assess CPSS steering committee members' knowledge of CPSS and attitudes toward planning for career development programs both pre and posttest. This information was used to support Hypothesis I above.

The findings reported for the primary level of measurement, Hypothesis I, were highly significant. The experimental schools displayed greater change toward the installation of a systematic

plan for career guidance than did control schools. The findings for the primary level of measurement, Hypothesis II, were mixed; however, a positive trend was observed in favor of the experimental schools regarding the quality of career development activities. The secondary level of measurement produced significant findings related to increased knowledge of CPSS and favorable attitudes toward systematic planning for career development programs among CPSS steering committee members in the experimental schools.

A major product of the study was the preparation of a report for the Joint OE-NIE Dissemination Review Panel. The Panel reviews the products of federally sponsored research for dissemination funds. The results of the Panel's evaluation of the report were not available at the time the final report was published.

INTRODUCTION

The National Center for Research in Vocational Education conducted the Career Planning Support System (CPSS) Assessment Study to report information about the impact of CPSS on high school staffs' planning and programming for student career development. The eighteen month study (June 1, 1978 - November 30, 1979) assessed the effects of CPSS in selected high schools during one academic year (October, 1978 - June, 1979). Project staff used the June - September, 1978 months to conduct site selection and instrument development activities, and the July - November, 1979 months to complete ratings of school data, data analysis, and final reports.

This controlled assessment involved the use of ten experimental (use CPSS) high schools and eight control (did not use CPSS) high schools in eight different school districts throughout the United States. The results of the assessment are presented in this final report and were submitted in a condensed report to the Joint Dissemination Review Panel (JDRP) of the U.S. Office of Education and the National Institute of Education for review and approval.

Description of CPSS

The Career Planning Support System (CPSS) is a package of materials designed to enable a high school staff to improve the effectiveness of its career development program through systematic program planning. "Career development" in the CPSS perspective is defined as the process by which an individual student acquires the basic, non-technical skills to cope in the world of work. CPSS is a support system that helps organize a school's staff and resources to meet the career development needs of students; therefore, CPSS is not a package of materials that an individual student might use to explore careers. CPSS is a set of program management procedures that are designed to promote five basic student career development skill areas: 1) Personal-Social Awareness Skills, 2) Career Exploration Skills, 3) Job Acquisition Skills, 4) Education and Training Exploration Skills, and 5) Education and Training Acquisition Skills. Over time, student skills development in these five areas is the expected outcome of the procedures suggested by CPSS.

CPSS is implemented by school staff and employs a package of handbooks, reproducible forms and filmstrips that guide the planning, implementation and evaluation of a high school's career development program. The following list describes a complete set of CPSS materials:

- The Coordinator's Training Guide is a self-instructional training guide for the part-time CPSS coordinator.
- The Coordinator's Handbook contains instructions that describe step-by-step procedures for managing and implementing CPSS in the high school.

- Camera-Ready Forms are reproducible copies of each form needed for the questionnaires, instructions, CPSS Program Information File, etc.

- Handbooks

  The Advisory Committee Handbook defines the responsibilities and duties of Advisory Committee members (five copies).

  Assessing Resources guides a resource leader in directing a task force to collect information on and account for the use of resources in the school and community.

  Assessing Needs: Surveying provides instruction for preparing, administering, and collecting survey questionnaires for students, graduates, parents, and faculty/staff (five copies).

  Assessing Needs: Tabulation contains instruction on manually tabulating data collected by questionnaires (five copies).

  Analyzing Methods directs the methods specialist to report the availability of guidance methods and instructs him/her on how to integrate this knowledge into the construction and review of career development units.

  The Manual for Writing Behavioral Objectives is a self-instructional guide for the behavioral objectives specialist.

  Writing Behavioral Objectives informs the behavioral objectives specialist about the function of behavioral objectives in the construction of career development units.

  Producing CDUs (Career Development Units) provides direction for developing career guidance/development activities.

- Filmstrip/Audio Tape Presentations include:

  AV-1: "An Orientation to CPSS"--designed to orient interested persons or special groups to CPSS.

  AV-2: "Shaping Program Goals"--an overview of how the needs and resources assessments lead to goals for your school.

  AV-3: "Behavioral Objectives"--used with the behavioral objectives manual.

AV-4: "Producing CDUs"--an overview of the career development unit process.

To accomplish the planning, implementation and evaluation procedures, CPSS recommends that a school coordinator lead the CPSS effort with the assistance of a working steering committee comprised of students, teachers, counselors, and administrators. The CPSS coordinator gives direction to the CPSS effort and chairs the steering committee; however, much of the planning, implementation and evaluation is performed by the steering committee with the help of other school faculty and members of the community.

The key procedural steps prescribed by CPSS are:

1. Organization of school staff: The CPSS coordinator, using CPSS manuals as guidelines, organizes a steering committee of faculty, students, counselors and administrators who meet regularly to complete the following steps. For each of the steps below, CPSS provides complete instructions.

2. Assessment of resources: Steering committee members compile a record of resources available in the school and community that might be used in the career development program. Resources include equipment, space, personnel, funds, and materials. Resource assessment also includes collecting demographic data describing the school and community, information about current career guidance and career development instructional activities in the state, district, school, and feeder schools, and a record of resources expended. The CPSS package includes a list of important categories of resources and tabulation forms for recording the resources in each major category.

3. Assessment of student needs: Steering committee members with the help of other faculty and students survey students, faculty, recent high school graduates and parents in order to determine the career development needs of the student body. Camera-ready master copies of the necessary survey instruments are provided in the CPSS materials.

4. Writing goals and behavioral objectives: Steering committee members use the results of the needs assessment to specify career development goals derived from needs and to list the goals in order of priority. Priorities depend, in part, on available resources. After the goals have been listed in order of priority, the highest priority goals are translated into behavioral objectives for students.

5. Creating career development units (CDUs): Interested faculty, with guidance from steering committee members, design CDUs. A CDU is a sequence of activities that is designed to achieve related sets of behavioral objectives for students. CPSS manuals prescribe the components of successful CDUs. The CDUs are geared toward the five basic career development skill areas listed earlier in this section. An example of a CDU might be a career development course or a sequence of related field trips.

6. Annual program review: At the end of each year the steering committee members review the CPSS career development program, including CDU development and implementation, the status of career development resources, progress toward program goals in satisfying student needs, and plan for the following year's efforts.

7. Program reassessment: CPSS recommends that the needs assessment be administered every three years. After three years, the data from recent graduates, who were introduced to CPSS-derived activities in the previous three years, are compared with data from current students to determine if the program plans initiated through CPSS are working and if student needs in high priority areas have been diminished (over the three year period).

The seven points listed above are the primary procedural components of the CPSS. The seven points are systematically interdependent in that steps one through four must occur first and lead to steps five, six, and seven. Approximately three academic years are required to install CPSS fully. The first year is devoted mostly to initial, systematic career development program planning, basically steps one through four above. After the first year's foundation is laid, the CPSS steering committee

focuses on the production and implementation of CDUs (step five), the heart of the school's career development program. This Assessment Study focused primarily on steps one through four; however, some data related to step five were collected.

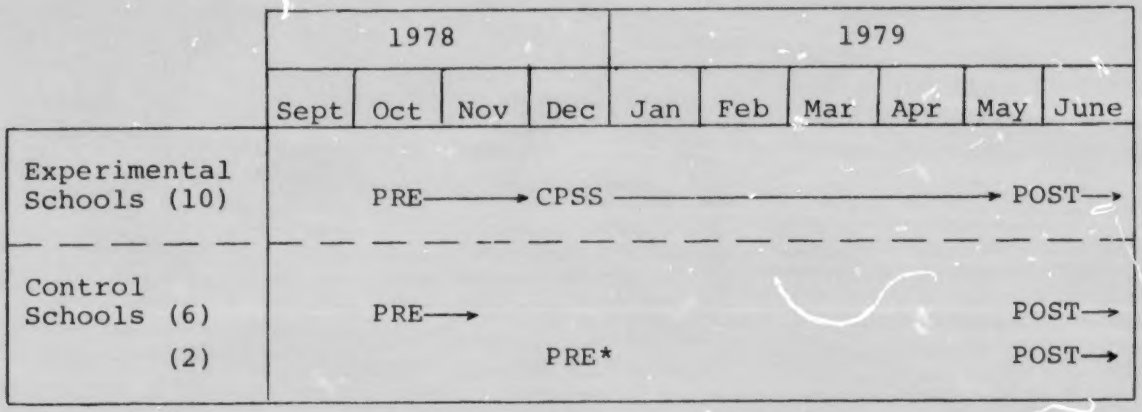
CPSS, as a support system, is designed to provide the organizational framework and procedural steps required to install an accountable, school-wide career development program. It does not prescribe what specific career development activities a school should use, but rather provides a means for a school to focus its career development program on the unique needs of its own students and within the bounds of its own resources.

Overview of the Study

Design

The CPSS Assessment Study was conducted to assess the effectiveness of CPSS. The study used a pre-post, experimental and control group research design to determine the impact of CPSS on selected high schools during one academic year. Eighteen comparable high schools participated in the study. Ten high schools were assigned to the experimental condition, implementing CPSS, and eight high schools were assigned to the control condition. The following chart shows the months when the pre and posttest data were collected and when the CPSS treatment occurred.

Figure 1. CPSS Assessment Study Research Design.



* Two control schools were unable to complete the pretest until 12/15/78.

Objectives

Two objectives guided the study. The objectives addressed the capacity of CPSS to produce 1) a systematic plan for career guidance and 2) career development activities that have a high probability of improving student career development skills. The objectives for the study are listed below:

1. School counselors, teachers, administrators, and students involved in CPSS for one academic year will develop a systematic plan for career guidance as judged by an external panel of reviewers.

   a. CPSS steering committees in the experimental schools will demonstrate a working knowledge of the operation of the Career Planning Support System.

   b. Attitudes of CPSS steering committee members in the experimental schools toward systematic planning for career development programs will either be more favorable by the end of the school year or will not be any less favorable than before the initiation of CPSS.

2. School counselors, teachers, administrators, and students, involved in CPSS for one academic year will develop a plan that contains activities having a high probability of improving student career development skills as judged by an external panel of reviewers.

Objective One is based on the assumption that "a systematic plan" is derived from coherently-related planning components. For the purposes of this study "a systematic plan for career guidance" consists of the following planning elements:

- An organizational structure facilitating a career development program, to include clearly designated leadership, permanent active committees and work groups, and administrative cooperation
- An assessment of the career development needs of local students and use of the results of the needs assessment in the career development program
- Creation of explicit career development goals reflecting assessed student career development needs
- Creation of behavioral objectives designed to implement the goals
- Creation of student activities to achieve the objectives and goals

Descriptive information related to the elements above was collected from both experimental and control schools, pre and posttest, and rated by expert raters to assess Objective One. It was expected that experimental schools would produce greater change toward a systematic plan for career guidance than would control schools.

Objectives 1a and 1b assume that demonstrated knowledge of CPSS procedures and favorable attitudes toward systematic planning will insure that experimental schools know how to develop a systematic career development program plan and display favorable attitudes

already or will develop favorable attitudes about systematic planning efforts. Demonstrated knowledge of CPSS and supportive attitudes lend credence to the expectation that the systematic planning steps developed in Objective One can be implemented.

Objective Two is based upon the assumption that systematic career development program planning leads to higher quality activities to meet student needs for career development skills than activities found in schools that do not use systematic planning procedures. Although the one-year assessment period did not permit full implementation of CPSS and full development of CDUs, some data were collected allowing comparisons between experimental and control school career development activities.

Measurement

Two types of instrumentation were developed to meet Objectives One and Two. One type of instrumentation was the two data sources which were used to report the status of career development program planning efforts and career development activities in experimental and control schools both pre and posttest. The first data source was a Career Development Program Status Report (CDPSR) and the other was a Verification Checklist (VCL).

The second type of instrumentation was the Career Development Program Rating Instrument (RI) used by an expert panel of raters. The raters completed the rating instrument using the CDPSR and VCL as data sources. The purpose of the ratings (provided on the rating instrument) was to assess the presence or absence of

key career development program planning components and the quality of career development program activities.

The subset of objectives of Objective One, 1a and 1b, were assessed through a separate set of instrumentation. A knowledge test of CPSS procedures, The Career Planning Support System Knowledge Test, was developed by project staff to assess steering committee members' knowledge of CPSS. An attitude scale, Perceptions of Program Planning for Career Development, developed by project staff was designed to assess steering committee members' attitudes toward systematic planning. The data sources, rating instruments, knowledge test and attitude scale are described fully in the METHODOLOGY section.

Table 1 displays the data sources and timing for the CPSS Assessment Study relative to the objectives of the study.

Details about the progress of the Assessment Study and subsequent results follow. Site selection, instrument development, site monitoring, pre-post data collection, and the conduct of the expert panel of raters' meetings are all described in the METHODOLOGY section. The outcomes of the study are reported in the RESULTS and CONCLUSIONS sections of this report.

Dissemination

Dissemination of the findings of this Assessment Study were achieved through a three step dissemination plan (see Appendix A). Step one involved a minor revision of the CPSS package of materials to correct typographical errors and to include information about the Assessment Study. Step two required project staff to prepare

TABLE 1. Data Sources for the Assessment of CPSS.

OBJECTIVES	TIMING AND DATA SOURCE DURING ACADEMIC YEAR		
	At Beginning of the Year	At Interim Points of the Year	At the End of the Year
1. Systematic career development program plans (experimental and control schools)	• Composite Status Reports generated by the school (CDPSR) • School records • Completion of on-site Verification Checklist by National Center project staff (VCL)	• Verification by project staff via telephone, mail, or site visit	• Plans/Reports generated by the schools (CDPSR) • School records • Completion of on-site Verification Checklist by National Center project staff (VCL)
a. Knowledge of CPSS (experimental schools only)	• Career Planning Support System Knowledge Test (steering committee only)		• Career Planning Support System Knowledge Test (steering committee only)
b. Attitudes toward systematic planning for career development programs (experimental schools only)	• Perceptions of Program Planning for Career Development Scale (steering committee only)		• Perceptions of Program Planning for Career Development Scale (steering committee only)
2. Career development program plans containing activities having a high probability of improving students' career development skills (experimental and control schools)	• Composite Status Reports generated by the schools (CDPSR) • School records • Completion of on-site Verification Checklist by National Center project staff (VCL)	• Verification by project staff via telephone, mail, or site visit	• Plans/Reports generated by the schools (CDPSR) • School records • Completion of on-site Verification Checklist by National Center project staff (VCL)

and submit two journal articles about the study and to coordinate an informational seminar about CPSS at a national conference. Step three involved mailing a complimentary set of CPSS materials to each state and territory department of guidance.

METHODOLOGY

Instrumentation

Two data collection forms and three assessment instruments were developed to assess attainment of the project objectives. An overall listing of the forms and instruments, who completed them, the time and sequence of their completion, and each objective they address is presented in Figure 2.

Data Collection Forms

Two data collection forms were used to gather descriptive information from the participating schools both pre and posttest. These data sources constituted the inputs for executing the Career Development Program Rating Instrument.

- The Career Development Program Status Report (CDPSR). The CDPSR organized information about the school and community and about the ongoing and projected career development program planning efforts at participating schools. The construction of the CDPSR was based upon the kinds of descriptive information needed to determine systematic planning (as exemplified by CPSS). The CDPSR (see Appendix B) was completed by school personnel both pre and posttest and consisted of four sections:

I. Site Description - community, school district and school

Figure 2. Forms and Instruments

Data Collection Forms	Persons Completing	Pretest Completion Date	Posttest Completion Date	Intended Objectives
• Career Development Program Status Report (CDPSR)	High School Staff (all schools)	12/78	6/79	1 & 2
• Verification Checklist (VCL)	National Center Project Staff (all schools)	12/78	6/79	1 & 2
Assessment Instruments				
• Career Development Program Rating Instrument	Expert Panel of Raters	8/79	8/79	1 & 2
• Career Planning Support System Knowledge Test	CPSS Steering Committee Members (experimental schools only)	12/78	6/79[1]	1a
• Perceptions of Program Planning for Career Development	CPSS Steering Committee Members (experimental schools only)	12/78	6/79[1]	1b

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[1] In addition to the experimental school CPSS steering committee members, thirteen school staff in three control schools completed these instruments at posttest only (see pp. 50 & 54).

II. Career Development Program Description - staff organization, state and district goals, and an overview of activities and resources

III. Present[1] Planning Efforts - personnel, assessment, and evaluation activities

IV. Projected[1] Planning Efforts - personnel, assessment, and evaluation activities.

By completing the CDPSR, participating schools documented the extent to which their existing career development program planning reflected the basic components of systematic career development program planning (staffing and personnel support, needs assessment, goal selection, development of behavioral objectives, and career development activities).

A pilot tryout of the form was completed with the assistance of two external consultants, both experienced career development practitioners. They were told that the form would be used by high school staff members to report information about the status of their career development programs and the programs' suitability to their communities. The consultants conducted their reviews of the CDPSR from the viewpoint of a director of guidance who might be asked to complete it for his or her high school. The consultants were instructed to assess the clarity of the structure, terminology, and phrasing of the report and the ease of retrieval of the requested

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[1]In the pretest version, sections III and IV referred to the 1977-78 and 1978-79 school years, respectively. In the posttest version, these changed to 1978-79 and 1979-80, respectively.

information as well as to comment on other problems encountered in completing the report.

Subsequently, a revised version of the CDPSR was submitted for final review to two additional external specialists in instrument development and career guidance. The consultants' report stated that the form provided information related to the goals of a systematic career development program and that it appeared to have content validity.

• The Verification Checklist (VCL). This form provided a means by which a National Center project staff person could corroborate, clarify, and expand the information recorded on a school's Career Development Program Status Report. The design of the VCL was based on the essential components of systematic career development program planning as exemplified by CPSS (see Appendix C).

During the pre and posttest site visits, a National Center project staff member completed the VCL based on the information presented in the school's CDPSR. Subsequently, during a face-to-face meeting with school personnel who completed the CDPSR, the National Center staff member asked for any clarification, probed for any missing information, and attempted to attain the most complete and accurate information possible with respect to the school's career development program planning efforts. Finally both the staff member and school coordinator signed the VCL. In this manner the VCL provided evidence supportive of, and supplementary to, the self-reporting mechanism of the CDPSR.

Assessment Instruments

• Career Development Program Rating Instrument (RI). The Career Development Program Rating Instrument was used by a rating panel with expertise in career development to rate the adequacy, quality, and potential impact of a high school's career development program planning as reported through the descriptive data sources, the CDPSR and the VCL.

The panelists were instructed to read all information provided in a school's CDPSR and VCL before using the RI to rate the school. The RI consisted of 33 items and was divided into seven sections. Each section had directions that applied to the items in that section and listed specific references in the data sources for each section or for individual items in a section. The data sources (CDPSR and VCL) were often accompanied by appendices that were attached to the CDPSR as part of the reference.

The RI sections represented basic component areas of a systematic career development program planning effort. Conceptually, sections I through V asked questions concerning specific facts describing the school's career development program. Section VI of the RI asks for the rater's estimate of the impact on student career development skills of future plans for the school's career development program. Section VII provided the raters an opportunity to express their judgments about the overall quality of career development program planning at a school relative to Objectives One and Two. Sections I through V, thus, were designed

to familiarize each rater with the facts, in preparation for the broad judgments requested in Sections VI and VII.

Both discrete variables (dichotomous and categorical) and continuous variables comprised the RI items (see Appendix D). Raters usually indicated their judgments on a four or five point Likert scale or by a Yes-No response unless specific instructions directed them otherwise. Each item was followed by a confidence rating which enabled the rater to indicate his/her confidence that the answer marked was correct. Therefore in addition to the reliability coefficients reported in the RESULTS section of this report, another estimate of reliability was obtained when panelists were asked to estimate their confidence in each rating they made. Raters were asked to place a check along a scale from zero to 100 indicating their judgments regarding the likelihood that their answers were accurate. The format of the confidence rating is reproduced below.

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

A prototype of the present RI was used by the rating panel in January, 1979 to rate the pretest data sources. However, due to unacceptably low reliability measures among raters, the original

rating instruments were revised with the help of an external test construction consultant and the pre and posttest data were rated in August, 1979, using the revised RI.

Principle concerns in the RI revision were: (1) to include only items that were clearly answerable given the CDPSR and VCL information, and (2) to eliminate items that did not allow control schools a fair opportunity to receive a high rating. Following examination and review by project staff, the RI was pilot tested by six National Center staff persons with expertise in instrument design, evaluation, and career development. The recommendations of these persons were incorporated in the final version of the RI.

• Career Planning Support System Knowledge Test. A test of CPSS knowledge was constructed to assess Objective 1a (see p. 7). A prototype multiple-choice test was developed based upon the contents of the Career Planning Support System Coordinator's Handbook, the principal reference for describing the concepts and procedures of CPSS. Since the test was intended to measure knowledge of CPSS planning procedures, an effort was made by project staff to exclude items not related to the CPSS planning model. Any items of this nature detected later were deleted or not scored.

The prototype test was reviewed first by a two-person team of outside technical consultants followed by a single outside technical consultant. In response to the consultant recommendations, action was taken to increase the coverage of CPSS planning steps, to eliminate items dealing with general planning procedures,

and to improve vaguely written items. On the advice of the consultants, the multiple-choice format was converted to a short answer (open-ended) one.

A small-scale tryout of the test was conducted using two persons familiar with CPSS and two persons unfamiliar with it. After further revision, the test was reviewed for clarity of expression and ease of understanding by two school district persons present at the National Center for training as CPSS school coordinators. Their suggestions were incorporated in the final revision of the test.

The completed knowledge test consisted of 21 items[2] with an average of three to four score points possible for each item (see Appendix E). A total of 74 points was possible.

The 74 possible points of the test were distributed across eight areas, with the number of items and points for each area determined, for the most part, by the approximate amount of time the steering committee was scheduled (by the Coordinator's Handbook) to meet regarding the topic. The points by areas were: career development units (17), needs assessment (12), resources (9), annual review (9), goals (8), objectives (7), overall planning coordination (7), student involvement (5). The results for the knowledge test are reported in the RESULTS section, p. 49.

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[2]Originally, there were 27 items in the test. Six items (9, 11, 13, 14, 21B, 18) were not used because of defects found after the test was printed.

• Perceptions of Program Planning for Career Development. A prototype attitude instrument was constructed with the help of an external consultant to assess the attitudes of CPSS steering committee members toward systematic planning for career development programs. This instrument was developed to meet Objective 1b (see page 7). Recommendations from a team of two external technical consultants, a single external technical consultant, and a National Center instrument design specialist were followed in revising and improving the instrument.

The instrument consisted of 32 statements about program planning for career development (see Appendix F). The statements reflected the planning concepts and procedures of CPSS as presented in the Career Planning Support System Coordinator's Handbook. Each subject had the opportunity to select one of five responses (disagree strongly = -2, disagree = -1, neutral = 0, agree = +1, agree strongly = +2) for each statement. Scoring was accomplished by coding the five responses (+2 through -2) and summing across the 32 items. The possible range of scores was from -64 to +64. The results on the attitude instrument are reported in the RESULTS section, p. 53.

Panel of Raters

Selection of Panelists

A major part of the Assessment Study involved the selection and recruitment of an external review panel of experts whose task would be to rate the adequacy, quality, and potential impact of

career development program planning and activities at experimental and control schools. A number of criteria for selection of review panel members were listed: proponent of comprehensive career guidance; national visibility; reputation within the profession; a mix of practitioners, administrators, and methodologists; availability; and experience in evaluation. Other considerations included minority representation, male to female ratio, and geographic distribution. National Center staff with familiarity in the area of career development were asked to suggest potential panel members meeting these criteria. A list of over 30 persons was compiled from which fifteen persons would be selected.

In the initial telephone contacts, prospective panel members were asked if they would be willing to serve on a 15-member rating panel consisting of persons like themselves with background and experience in the areas of career development. They were informed that the panel would be performing assessment activities on data received from high schools throughout the nation.

The main reason for use of a panel of expert judges is related to the nature of the subject matter. Few people would doubt that efficient organization and planning comprise important aspects of high school career development programs. Yet the important features of efficient organization and planning remain uncodified in sufficient detail to permit completely objective measurement. In such instances, human judgments are essential. Hence, a panel of individuals with the experience, training, and reputation was assembled to provide the most accurate judgments available.

Rating of Schools

The rating panel convened at the National Center for Research in Vocational Education on January 24, 25, and 26, 1979 (see Appendix G for list of panel members). The panel rated pretest data collected from the eighteen high schools. The most significant outcome of the first meeting was a subsequent revision of the Career Development Program Rating Instrument.

A second meeting of the rating panel occurred August 20, 21, and 22, 1979. Following brief introductions by project staff, the panelists were supplied sample copies of the revised Career Development Program Rating Instrument (RI) with accompanying definitions and directions. The RI and directions were reviewed with the panel so that all panelists were sure of their assignments.

The task given the panelists was to use a Career Development Program Rating Instrument to rate a school's career development program planning as reported through two data sources, the Career Development Program Status Report (CDPSR) and the Verification Checklist (VCL). All panelists completed a rating instrument for each data set they reviewed.

The panelists' (N=15) rating assignments were planned so that each school (N=18, pretest; N=18, posttest) was rated by three or four different and randomly-assigned raters. Assigning more than one rater to each school permitted numerical assessment of reliability of the ratings and yielded more accurate results than could be obtained from a single rating per school. Each panelist rated both the pre and posttest data from a school.

Each panelist rated eight different data sets (one pretest, one posttest) from four different schools.

Two hour time periods were alloted for the rating of a single data set. At the end of each rating period, each data set was collected and then redistributed to the next appropriate panelist.

In order to eliminate rater bias, the panelists were not informed that a CPSS model provided the framework for this study. Neither were they advised of the pre-post, experimental-control design of the study. They were told that the data sources were reports taken at two different time periods from a set of high schools and that some of the schools in the two time periods may have been the same. However, all identifying information, e.g., state, city, school name, school address, dates, had been deleted prior to the ratings.

In a final debriefing session, after all rating activities had been completed, the panelists were told that they had participated in an assessment study of the Career Planning Support System. They were given CPSS materials, a study abstract, and informed of all aspects of the study. The panelists indicated that they had neither surmised the nature of the study nor recognized that they had rated pre and posttest data from the same schools.

A last task required of the panelists was the submission of a two-page paper of recommendations or comments to assess the rating procedure, rating instrument, implications for analysis, and the adequacy of the Status Report and Verification Checklist

as sources of information about a school career development program. These recommendations were used in preparing the JDRP report.

Experimental and Control School Selection

The intent of the school selection process was to identify a sample of urban high schools, ten experimental and ten control, to participate in the CPSS Assessment Study. Project staff expected to select two volunteer high schools from each of ten urban school districts. Once identified, each high school was to be randomly assigned to either an experimental or control condition. The purpose in selecting one experimental high school and one control high school from the same district was to control for district and geographic variables and to minimize national travel.

The expected school selection process was difficult to carry out. CPSS requires a staff commitment of one part-time coordinator and a working steering committee. Some school districts could not commit any staff to the project. Many school districts were experiencing budget and subsequent staff cutbacks, union/school board problems, and desegregation difficulties. Other school district officials cited the passage of California's Proposition 13 as a detriment to participation in a national project of the scope of the CPSS Assessment Study during 1978-79. These factors caused project staff to make compromises in obtaining the desired number of schools within optimal research conditions.

School Selection

Project staff began the school selection process on July 21, 1978, by inviting superintendents of school districts in thirty-five of the fifty largest cities in the United States to recommend high schools in their districts to participate in the national assessment of CPSS (see Appendix H). School district superintendents were encouraged to nominate interested high schools. Each interested school would complete a School Information Checklist (SICL) which reported information about the school relative to the number of faculty/staff, size of the student population, distribution of ACT/SAT scores, drop-out rates, estimated average family income of student population, racial/ethnic mix of student population and other information (see Appendix I). Project staff ultimately used the SICL to comparatively match schools within districts. The fifteen city school districts which did not receive the initial mailing were known to be experiencing some of the difficulties mentioned in the previous section. By selecting high schools from districts in the largest cities in the United States, it is expected that the results of the study may generalize to the widest population of American high schools.

The initial mailing produced few candidate schools by mid-September. To enlarge the sampling frame and to broaden geographic distribution, additional school districts were invited to participate in the study. These districts were located in the standard metropolitan areas (SMAs) surrounding some of the large cities.

By mid-October eighteen high schools representing eight school districts agreed to participate in the study. The final two schools, each representing one of two adjacent school districts, were located in a rural setting and thus expanded the domain of representation. Table 2 shows the number of experimental and control schools, the school districts, cities, and states that participated in the CPSS Assessment Study.

Experimental and Control Assignment

Of the eighteen high schools, four schools were randomly assigned to experimental and control conditions. Most local school district administrators insisted that the determination of experimental and control schools be decided at the local district level, rather than through random assignment by the National Center; therefore, fourteen schools were not randomly assigned to conditions (see Table 2). Some of the local considerations for assignment to conditions were: 1) staffing patterns in the experimental schools allowed for easy assignment of a CPSS coordinator; 2) the experimental school was ready to start with CPSS, the control school wanted to wait; 3) a school dropped out at the last minute and the remaining school was assigned experimental, until a control school could be found. Nevertheless, schools within districts appeared closely matched on the characteristics reported on the School Information Checklist (see Table 3). Table 3 lists the descriptive information obtained from the SICL about each of the schools involved in the study.

TABLE 2

Experimental and Control Schools

District	City and State	# of Experimental High Schools	# of Control High Schools	Assignment to Conditions
Chicago Public Schools[1]	Chicago, IL	2	2	Random
Baltimore City Public Schools[1]	Baltimore, MD	2	1	Nonrandom
Dade County Public Schools[1]	Miami, FL	2	1	Nonrandom
Jefferson County Public Schools	Louisville, KY	1	1	Nonrandom
Memphis City Schools	Memphis, TN	1	1	Nonrandom
Jefferson County Public Schools	Lakewood, CO	1	1	Nonrandom
Globe Public Schools[2]	Globe, AZ	1		Nonrandom
Miami Public Schools[2]	Miami, AZ		1	Nonrandom

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[1]To insure a sufficient number of experimental and control schools, project staff accepted all of the schools recommended by interested school districts.

[2]Globe and Miami are adjacent districts with one high school in each district. For the purposes of the assessment study, Globe and Miami were matched. Globe is the experimental high school and Miami is the control high school.

TABLE 3

Characteristics of Experimental and Control Schools in Each District[1]

School Code	Treatment[4]	Student Pop.	Teachers/Counselors/Administrators Tchrs/Counselors/Admin	Racial/Ethnic[2] (Percentages) W / B / SP / Asian / Nat. Am					ACT Composite or SAT	Est. Average Family Income (in thousands)	Grade Levels	Student Drop-Out Rate	State
01	X	1029	48	2	2	54	-	21	-	25	17.5	10-15	9-12	12%	AZ[3]
02	C	617	35	1	2	58	-	40	-	1.4	19.4	10-15	9-12	8.9%	
03	X	1278	72	5	3	-	100	-	-	-	350/300	15-20	10-12	5%	
04	X	2006	101	7	4	10	90	-	-	-	330/330	5-10	9-12	8%	MD
05	C	3000	120	7	5	30	70	-	-	-	300/337	5-10	10-12	13%	
06	X	2049	110	6	5	-	100	-	-	-	12	5-10	9-12	2.9%	
09	C	1853	80	4	3	-	100	-	-	-	10	5-10	9-12	16.2%	IL
07	X	3054	159	8	5	-	100	-	-	-	12	10-15	9-12	7%	
08	C	2735	139	7	4	-	100	-	-	-	14	10-15	9-12	8%	
10	X	1600	92	5	5	83	-	16	1	-	19.3	10-15	10-12	5%	CO
11	C	2258	101	6	5	86	-	13	1	-	19.3	15-20	9-12	10.9%	
12	X	1950	88	4	4	70	30	-	-	-	16.5	5-10	9-12	7%	KY
13	C	1406	80	4	3	77	23	-	-	-	18.2	10-15	9-12	5%	
14	X	893	63	3	4	72	28	-	-	-	16.7	15-20	9-12	2.5%	TN
15	C	1399	55	3	3	85	15	-	-	-	18.4	15-20	9-12	5%	
16	X	2300	109	7	4	30	40	30	-	-	N/A	10-15	10-12	14%	
17	X	3000	138	6	5	62	24	12	2	-	440 (mean)	10-15	9-12	11%	FL
18	C	2274	116	5	4	70	17	11	2	-	507 (mean)	15-20	10-12	13%	

[1] Districts are shown by horizontal broken lines separting groups of schools

[2] Ethnic abbreviations: W = White, B = Black, SP = Spanish Surname, Nat. Am = Native American

[3] Schools 01 and 02 are the two rural, Arizona high schools located in separate, adjacent school districts

[4] X = experimental, C = control

Whenever random assignment to treatment groups cannot be achieved, observed differences between treatment groups in theory can be due to nontreatment variables. The standard methodology for handling objections of this sort is to introduce some type of statistical control for a small group of variables that are likely candidates to account for observed differences between treatment groups. In the present case, the sample size is small enough to render such procedures of dubious value. One may observe, however, bivariate relationships between selected "control" variables and the treatment variable.

In the present study the treatment variable is defined by the two categories--used CPSS and did not use CPSS. Averages on the following variables were compared statistically for users and nonusers of CPSS: student population, faculty/student ratio, academic test scores, drop-out rate, percentage of the student population who were minority group members, and a rough estimate of family income of the student body. As shown in Table 4, in none of these six tests were statistically significant differences observed. Hence, it is concluded that the differences between users and nonusers of CPSS reported in the RESULTS section of this report are not likely due to any of these six characteristics of schools.

Experimental and Control School Implementation Contracts

Once schools were selected and assigned to experimental and control conditions, project staff initiated a contractual

TABLE 4

Key Characteristics of Test Sites

Average of Characteristic	Control Schools	Experimental Schools	t-value
Student population	1916	1943	.074
Ratio of faculty and staff to student population	19.49	17.64	1.540
ACT/SAT scores*	15.67	16.84	.748
Estimated family income	$12000	$13125	.607
Drop-out rate	7.4%	10.0%	1.375
Percent white	38%	51%	.814

NOTE: Table entries are averages over the control or experimental schools, as labeled. Experimental school refers to a school that used CPSS during the study, and control school refers to a school that did not use CPSS.

*Five schools made SAT scores available, and the remaining 13 submitted ACT averages. The five SAT scores were converted to the metric of ACT by dividing them by the ratio of the average over schools SAT to the average ACT.

relationship with each of the school districts involved through purchase of services agreements. These were used to help the participating schools defray some of the costs related to the study. $5,000.00 was set aside for each experimental school to reimburse the school district for staff time, and $500.00 was set aside for each control school for reimbursement of staff time related to data collection.

Each school was required to provide a part-time coordinator. In the experimental schools, the coordinator was responsible for the preparation and completion of data collection forms and served as coordinator of CPSS in the school. In the control schools, the coordinator was responsible for the completion of the necessary data collection forms and served as the on-site contact for the study. A copy of the work statement which accompanied the purchase of services agreement is appended (see Appendix J).

Pretest Data Collection

With purchase of services agreements initiated for each experimental and control school, National Center project staff began the on-site pretest data collection. As mentioned on p. 13, each school completed the Career Development Program Status Report (CDPSR) as a pretest report of the school's career development program. Project staff, using the Verification Checklist (VCL), reviewed the CDPSR on-site to insure that the CDPSR was a complete self-report of the career development program in the school. The purpose of the VCL was to highlight the strongest

aspects of the school's program. The VCL was signed by both the school representative and the project staff member.

These pretest visits were conducted between mid-October and mid-November in sixteen of the eighteen schools. Two control schools were not able to complete the pretest data reporting until mid-December (see Figure 1, p. 7).

At pretest, nine of the eighteen schools received on-site visits and completed data collection activities prior to assignment to experimental or control conditions. Of these nine, four were randomly assigned and five were not. The other nine schools completed pretest data collection activities after assignment to experimental or control conditions.

The pretest data collected on the CDPSR and VCL provided the information that the rating panel used to rate the eighteen schools prior to the CPSS treatment.

In the experimental schools, additional pretesting was performed. Each CPSS coordinator gave the steering committee members a timed pretest (45 minutes) relative to the members' knowledge about CPSS procedures, The Career Planning Support System Knowledge Test, and their attitudes toward systematic planning for career development programs, Perceptions of Program Planning for Career Development. These tests were not given to control school staff (see pp. 19,21..for descriptions of the instruments).

Training

The ten CPSS coordinators from the ten experimental schools were brought to the National Center in November, after the pretest

visits, to receive training in CPSS procedures. The three-day training involved an introduction to the rationale and basis for the CPSS model, an in-depth review of each step in the CPSS process and "hands-on" practice with the CPSS materials. Once the CPSS coordinators returned to their schools, after training, they began to install CPSS.

Site Monitoring

The experimental and control schools were monitored throughout the year (November, 1978 - June, 1979) up to and including posttesting. In the experimental schools, CPSS coordinators completed project logs twice a month, describing the progress of CPSS in the school. In addition, National Center project staff telephoned each school at least once per month and conducted an interim on-site visit during February. Project staff completed an on-site monitoring log for each school visited. The on-site monitoring log described the nature and scope of the visit.

For the control schools, site monitoring involved telephone calls on the average of one per month and an on-site visit in February. An on-site monitoring log was completed for each control school. The purpose of the on-site visit to the control school was to review at the school the on-going activities related to the career development program in the school.

Technical assistance to experimental or control schools was minimal. Although the experimental schools received three days of training in CPSS, project staff did very little to assist experimental schools in the installation of CPSS.

Posttest Data Collection

The final phase of experimental and control school activity was the posttest data collection. Each school completed a posttest version of the CDPSR. This form was exactly the same as the pretest version except that dates were changed to reflect the different reporting period. The information required on the form was the same as the pretest. National Center staff conducted posttest site visits to collect the CDPSR and reviewed it on-site to insure that it was completed fully. The VCL was used to insure that all possible information was reported in the CDPSR. As during the pretest, the VCL was signed by both project staff and the school coordinator.

In the experimental schools, additional posttesting occurred. National Center staff administered to steering committee members the posttest versions of the knowledge test of CPSS procedures and the attitude test. Also, post-project interviews were conducted with steering committee members to gather information about the use of CPSS in the school. These interviews gave steering committee members a chance to describe the strengths and weaknesses of CPSS and to report their experiences with CPSS. In addition, two career development units prepared in experimental schools as a direct result of CPSS were comparatively tested in each of the experimental schools. This information was collected, in part, to address Objective Two (see p. 7). Each experimental school developed two career development units based on their students' needs.

Each unit involved instruction for students in some career skill, i.e., career exploration, interviewing. The teacher-developed test of achievement for each career development unit was given to the class that had been taught the unit and also to a comparable class which had not been taught the unit. The result of these comparisons is reported in the RESULTS section, p. 48.

In the control schools, posttesting involved completion of the CDPSR and cooperative completion of the VCL. Each of the control schools was given a set of CPSS materials and an orientation to CPSS once the posttest data collection was completed.

RESULTS

Rating Instrument

Major Hypotheses

There were two major hypotheses tested by use of the Career Development Program Rating Instrument. The first major hypothesis maintains that school staffs using CPSS will produce greater change toward a systematic plan for career guidance than will school staffs not using CPSS. This corresponds directly with Objective One, p. 7. The second major hypothesis states that school staffs using CPSS will develop higher quality activities to improve student career development skills than will school staffs not using CPSS. This hypothesis related to Objective Two, p. 7. The numbers used in the analyses for these hypotheses are the averages over raters of scores for a given item on the rating instrument.

The key items on the rating instrument related to the first hypothesis were those taken from section VII of the rating instrument, items 28 through 33. These were the rating items that required the raters to make judgments about key components of a systematic plan for career guidance: staff organization, needs assessment, goal setting, preparation of behavioral objectives, and design of effective career development activities.

The main rating items for analysis of the first hypothesis are reproduced below.

28. Estimate the extent to which the school staff was organized to plan systematically a comprehensive career development program by evidence of clearly designated leadership; administrative cooperation; and permanent, active groups and committees.

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

29. Estimate the extent to which a student career development needs assessment was conducted, tabulated, properly interpreted, and the data utilized for planning the career development program.

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

30. Estimate the extent to which a comprehensive set of ordered career development goals reflecting assessed student career development needs were developed and used in planning, implementation and evaluation of the program.

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

31. Estimate the extent to which a set of behavioral objectives was developed reflecting specific goals and containing a clear statement of the intended audience, behavior, situation and standard of mastery.

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

32. Estimate the extent to which career development activities were developed that reflect student needs, goals, and associated objectives, and that indicate methods, target student group, and outcome measures by referring to the two attached career development activities (yellow).

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

33. Based on the available information (including all yellow and pink career development activities), rate the overall quality of the school's career development program.

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Very Low Quality — Very High Quality

The rating items used to support the second hypothesis were items 19, 27 and 32. These were the items that required the expert raters to make judgments about the quality of career development activities. The items for analysis of the second hypothesis are reproduced below.

19.[1] What is your best estimate of the chance that each of the career development activities will improve student career development skills, irrespective of whether the career development skill is listed as an objective of the activity.

Activity A:	( )	( )	( )	( )
Activity B:	( )	( )	( )	( )
	Good Chance (3)	Some Chance (2)	Little Chance (1)	Very Little Chance (0)

27. If the plans reported on SR pp. 16-20 are carried out, what, in your experience, is the chance that student career development skills will be improved?

( )	( )	( )	( )
Good Chance (3)	Some Chance (2)	Little Chance (1)	Very Little Chance (0)

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[1] Item 19 has answer choices A and B. If a school reported two career activities both A and B were used. However, if a school reported one career activity, A was used. If none were reported no activity was rated; therefore, more "cases" are reported for 19A (N=33)than for 19B (N=27).

32. Estimate the extent to which career development activities were developed that reflect student needs, goals, and associated objectives, and that indicate methods, target student group and outcome measure by referring to the two attached career development activities (yellow).

( )	( )	( )	( )	( )
(0)	(1)	(2)	(3)	(4)

Limited Extent Great Extent

Data Analysis Methods

Two statistical methods were used to assess the two hypotheses. The most straightforward method is a two-factor analysis of variance (ANOVA) in which one factor is time (pretest and posttest) and the other factor is experimental condition (used CPSS and did not use CPSS). The research hypothesis for the ANOVA is that a statistical interaction will be observed of the following form: average change on rating scores toward a systematic planning process or better career activities from pretest to posttest for experimental school staffs will exceed that for control school staffs. Thus, the F test for interaction in the two-factor ANOVA will be the one on which to focus. Since the form of the interaction is predicted in advance, it is equally important to observe the means for each of the four cells in the design. The pattern of these means should conform to the expectation that experimental schools exhibit greater gain than control schools.

The second statistical method for assesssing the two hypotheses is analysis of covariance (ANCOVA). The dependent variables for the ANCOVA are posttest rating scores describing the planning

process or career activities of each school at the end of the experiment. The ANCOVAs contain one categorical factor--experimental condition defined by the use or nonuse of CPSS--and one covariate defined as the pretest rating score corresponding to the posttest dependent variable. Conceptually, the ANCOVAs describe differences in posttest rating scores between school staffs using CPSS and school staffs not using CPSS, under statistical control for the pretest rating score.

Although it does not appear to be widely recognized, the ANCOVA model can be viewed as a model of change, just as is the two-factor ANOVA described above. Conceptually, the ANCOVA can be viewed as expressing the following hypothesis: Change over the period of the experiment is greater for school staffs using CPSS than for school staffs not using CPSS, when statistical controls for the effect of the starting point (pretest rating scores) are applied.

In addition to the analysis of variance and covariance, reliability estimates of the rating scores are reported. The unit of analysis for all statistical results is defined by schools. A score describing each school on each variable is calculated by forming the average over the three or four raters who rated each school. The agreement among raters for a given school indicates the reliability of the scores, and, conversely, disagreement among raters indicates unreliability. The discrepancies among raters of a given school can be compared to differences in average ratings across schools. This basic idea forms

the conceptual basis for calculating reliability coefficients based on an analysis of variance model (see Winer, 1971: 283 ff). The idea is to compare a mean-square within schools to the mean-square between schools. Since the object of the design is to minimize pretest differences among schools, these calculations are based on posttest rating scores only. The calculations omit consideration of "anchor points" (Winer, 1971: 289 ff), thus yielding somewhat conservative estimates of reliability (see Figures 3 and 4). The formula used approximates an unbiased estimate of reliability, assuming no anchor point differences among raters (unlike correlational methods such as split half or coefficient alpha).

Findings

The major results obtained for Hypothesis I are summarized in Figure 3. Each of the top five panels of the figure summarize the results for one element used to define a systematic plan for career guidance. The sixth panel summarizes judgments of the overall quality. The panels of the figure are numbered and labeled to correspond to the key rating items reproduced on pp. 38 & 39.

The lefthand graphs plot subgroup means associated with the two-factor ANOVA. The line for the schools using CPSS is labeled E, for experimental group, and the line for schools not using CPSS is labeled C, for control group. The horizontal axis represents time, t = 1 for pretest, and t = 2 for posttest. The vertical axis represents the five-point scale (0 - 4) associated with each item. The slope of the lines thus give the average

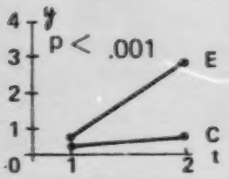
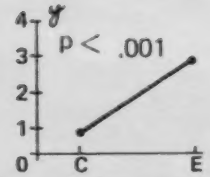
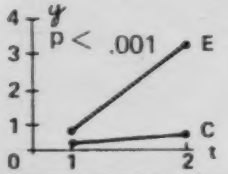
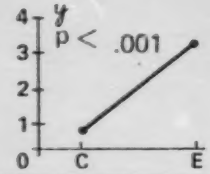
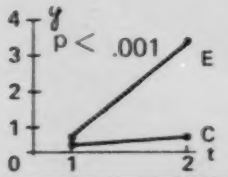
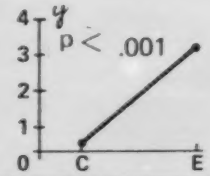
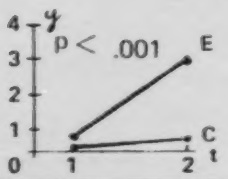
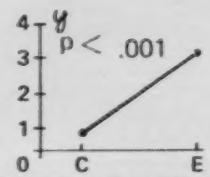
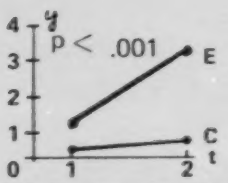
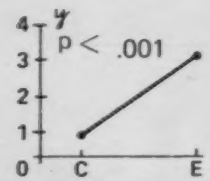
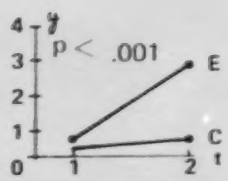
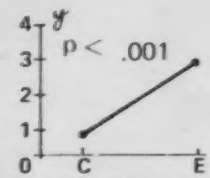
	ANOVA	ANCOVA	
28. Organization			reliability = .852 average confidence rating = 87.0%
[illegible]			reliability = .922 average confidence rating = 91.9%
30. Goals			reliability = .932 average confidence rating = 91.5%
31. Objectives			reliability = .900 average confidence rating = 90.7%
32. Activities			reliability = .850 average confidence rating = 88.0%
33. Overall Quality			reliability = .829 average confidence rating = .87.7%

FIGURE 3 ANOVAs, ANCOVAs, reliabilities, and average confidence ratings for Hypothesis One.

change from pretest to posttest for schools using CPSS (E) and for schools not using CPSS (C). Lack of parallelity of these two lines reflects the statistical interaction postulated for the ANOVA.

In every case the slope is substantially steeper for experimental schools than for control schools. As indicated on the graph by the notation $p < .001$, the chance that the observed differences in slope are due to sampling error is less than one in 1000. (These probabilities are reported for the interaction term in the ANOVA).

The righthand column of graphs displays plots of mean differences in posttest scores between experimental schools (E) and control schools (C), as adjusted statistically by the analysis of covariance for pretest scores on the dependent variable. Alternatively, as noted above, these graphs may be interpreted as differences in change from pretest to posttest, adjusted for differences in starting point. The vertical axis of these graphs matches those for the ANOVAs. The horizontal axis does not reflect a continuous slope. Rather, the lefthand point (labeled C) corresponds to the control group, and the righthand point corresponds to the experimental group (labeled E). This positioning of E and C is arbitrary, but was selected so that a positive slope indicates support for the first hypothesis: that experimental schools show larger gains, when adjusted for starting point than do control schools. All six graphs do show a substantial positive slope, thereby lending support to the hypothesis. As

with the ANOVAs, all statistical tests are highly significant, with probabilities approaching zero. (Reported probabilities are for the main effect of the experimental variable, after adjustment for the covariate).

The reliability coefficient associated with each dependent measure is high, ranging from .829 to .932, and averaging .881. Also, the average confidence ratings of panelists is reasonably high, thus reinforcing the reliability calculations. In spite of the need for approximate judgments, therefore, it is concluded that available evidence is consistent with the view that the measurements are accurate to within tolerable limits.

The results secured for Hypothesis II are summarized in Figure 4. Each of the three panels display ratings for the three key items related to quality career development activities. The panels of the figure are numbered and labeled to correspond to the rating items reproduced on pp. 39 and 40.

Similar to Figure 3, the lefthand graphs plot subgroup means associated with the two-factor ANOVA. The line for the schools using CPSS is labeled E, and the line for schools not using CPSS is labeled C. The horizontal axis represents time, t = 1 for pretest, and t = 2 for posttest. The vertical axis represents the four point scale (0 - 3) for items 19A, 19B and 27 and a five point scale (0 - 4) for item 32. The slope of the lines thus gives the average change in the quality of career development activities from pretest to posttest for schools using CPSS (E) and for schools not using CPSS (C). Lack of parallelity for

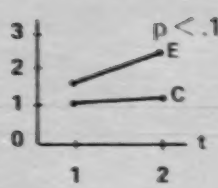
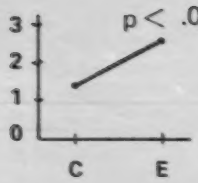
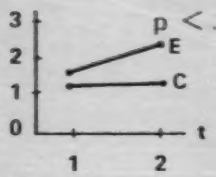
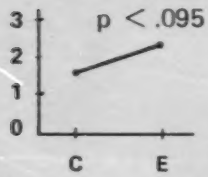
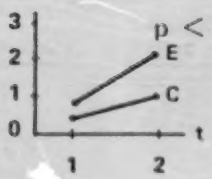
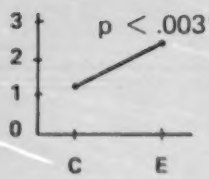
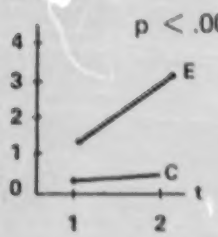
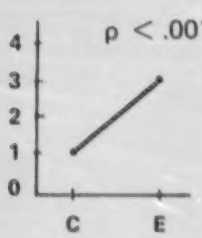
	ANOVA	ANCOVA	
19. Activity A			Reliability = .751 Average Confidence Rating = .846
Activity B			Reliability = .645 Average Confidence Rating = .823
27. Skills			Reliability = .754 Average Confidence Rating = .867
32. Activities			Reliability = .850 Average Confidence Rating = .880

FIGURE 4. ANOVAs, ANCOVAs, reliabilities, and average confidence ratings for Hypothesis Two.

these two lines reflects the statistical interaction postulated for the ANOVA.

In items 19A, 19B, and 27, the differences between experimental and control schools were not statistically significant. However, in each instance, a positive slope is observed, in favor of the experimental schools, thus lending some support to the research hypothesis. The graph of item 32 indicates a high level of significance. The probability that the observed differences were due to chance is less than one in 1000. The positive slope on this item indicates support for Hypothesis II: that experimental schools may produce higher quality activities than do control schools.

The righthand column of graphs are also similar to those in Figure 3. This column displays plots of mean differences in posttest scores between experimental (E) schools and control (C) schools, as adjusted statistically by the analysis of covariance (ANCOVA) for pretest scores on the dependent variable. The vertical axis of these graphs matches those for the ANOVA. The horizontal axis does not reflect a continuous scale; rather, the lefthand point (C) corresponds to the control group and the righthand point (E) corresponds to the experimental group. Item 19B displays nonsignificant findings. However, as pointed out in the footnote on p. 39, item 19B is based on a smaller number of cases (N=27), than item 19A (N=33). It may be that, due to this difference in N, larger gains would have to develop to show

significant results. Items 19A, 27 and 32 all show significance at the .01 level. These findings support Hypothesis II.

Reliability coefficients for items 19A, 19B, 27 and 32 are also reported on Figure 4. These reliability measurements are within tolerable limits, .75 and above, except for item 19B. Again, this may be due to smaller N for the item. Average confidence ratings appear to be reasonably high and reinforce the reliability calculations.

Additional information, reported below, was collected from experimental schools that reinforces the positive trend reported in the analyses for Hypothesis II. As reported on p. 36, Posttest Data Collection, experimental schools conducted comparison tests of two career development units (CDUs) developed as a result of the use of CPSS. In every case, the achievement of the students who had been taught the CPSS-derived unit was much greater than for those students who had not been taught the unit. Each experimental school conducted these comparisons in a different way, with different content, and on different populations; therefore, no effort has been made to report "findings." It is simply noted that differences were observed in tests of comparison between students who had been taught certain career development units based on CPSS and those who had not been taught the units.

Knowledge and Attitude Tests

Objectives 1a and 1b

The knowledge and attitude instruments were designed to assess Objectives 1a and 1b and, ultimately, to produce evidence supportive of Hypothesis I. It is assumed that an increase in CPSS steering committee members' knowledge during one year (as reported by scores on the Career Planning Support System Knowledge Test) and no change or a positive change in attitudes by these members toward systematic planning for career development (as reported by scores obtained on the Perceptions of Program Planning for Career Development scale) provide additional evidence to support the expectation that experimental schools display greater change toward the demonstration of systematic planning for career guidance programs than do control schools.

Analysis of Knowledge Test Scores

The "Career Planning Support System Knowledge Test" was taken by 49 subjects at the pretest and 47 at the posttest. All were members of the steering committees (except for the CPSS school coordinators) at the ten experimental school sites. Scores were also obtained from three control schools at posttest for comparison purposes. The knowledge test has acceptable reliability: correlation of split halves gave an estimated reliability coefficient of .75, corrected for length. The small number of test items (21) and the large number of unanswered items (the items were open-ended) probably contributed to the reliability level.

Three project staff members scored the test. All three scored the five items that were viewed as most difficult (i.e., required more judgment) to score. Each of the remaining items was assigned to individual raters, i.e., one rater scored given items on all response sheets. For the five items scored by all three raters, the median score was used. Intercorrelations between pairs of the raters on the five difficult items ranged from .78 to .84.

Descriptive statistics are presented in Table 5 and Figure 5. As shown in Figure 5, the difference between pre and posttest scores is significant not only in the statistical sense, $t_{(\text{matched pairs})} = 8.23$, $\underline{df} = 9$, $p < .001$, but also in an "educational" sense by showing that more than one standard deviation difference exists between means of pre and posttest measures (i.e., gains averaged over six points on the test from pre to posttest).

These findings support Objective 1a, which states that steering committee members' knowledge of CPSS will increase.

Members of the school staff at three control schools also took the knowledge test at posttest time only. The mean knowledge score for control schools was 8.7; the standard deviation, 5.28 (see Table 6). These control school scores are quite similar to the pretest experimental school scores.

Table 5

Mean Scores on CPSS Knowledge Test of
Steering Committee Members in Experimental Schools

School Code	Mean Score (over people within school) Pretest	Posttest
01	11.15	15.09
03	11.92	20.91
04	16.46	19.72
06	10.57	19.67
07	9.37	16.71
10	13.56	21.31
12	8.28	13.65
14	8.93	21.03
16	10.11	21.08
17	5.76	14.46

Pretest

mean = 10.26 (over schools)

range of means = 5.76 to 16.46

range of raw scores = .5 to 28.7

n = 49

SD = 5.53

Posttest

Mean = 18.13 (over schools)

range of means = 13.65 to 21.31

range of raw scores = 2.5 to 34.5

n = 47

SD = 6.16

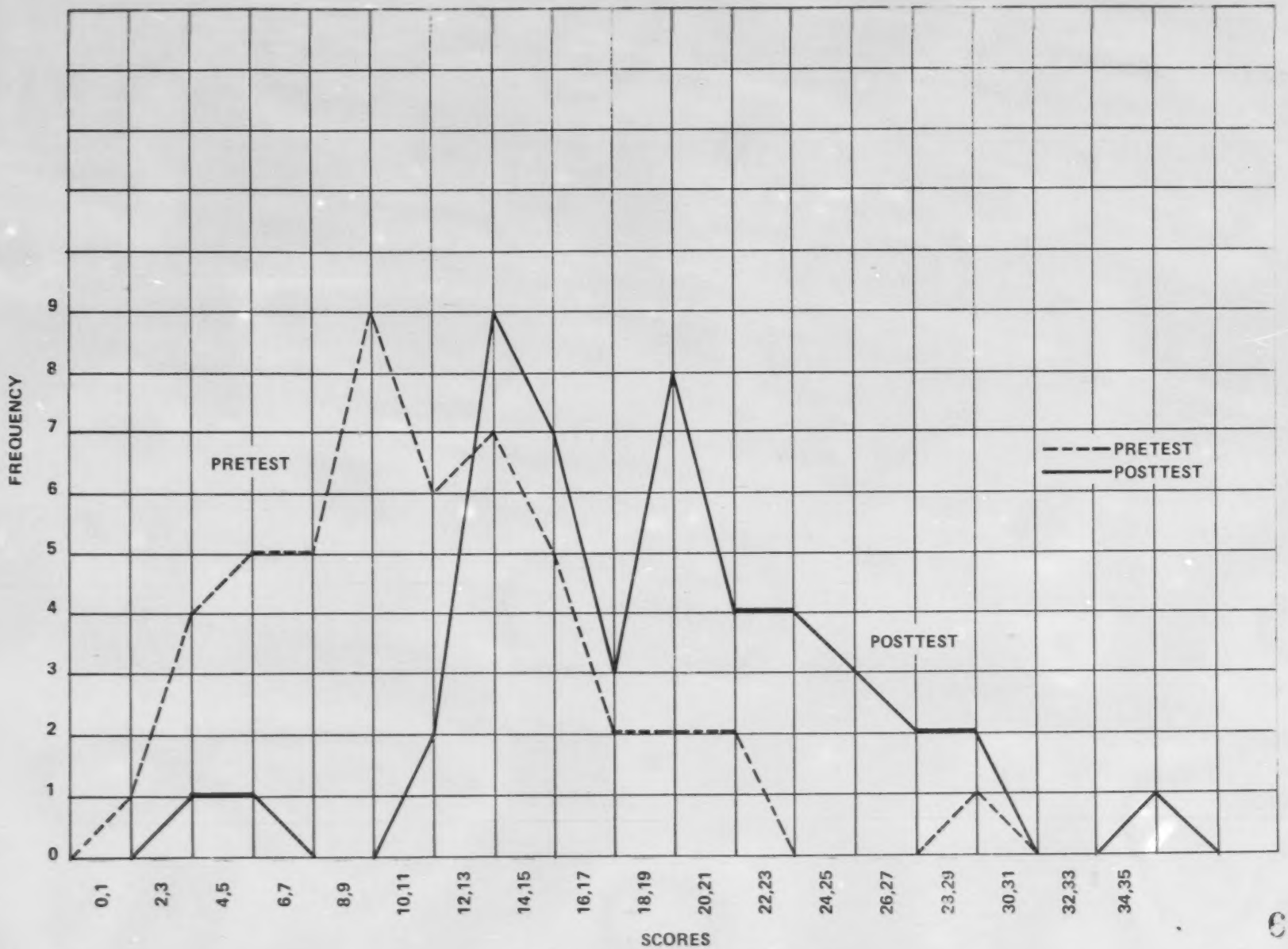


FIGURE 5: Knowledge Test Scores

Table 6

Control Schools Knowledge Scores

School Code	Mean
02	14.8
05	6.3
08	7.4

Grand mean = 8.7

Range of raw scores = 2 to 20

n = 13

SD = 5.28

Analysis of the Attitude Instrument Scores

All experimental school steering committee members (except the CPSS coordinators) completed the attitude scale both pre and posttest. Each of the 32 items on the "Perceptions of Program Planning for Career Development" allowed five possible degrees of agreement. Responses to these items were coded -2 through +2 and were summed to give a total score. The possible range of scores was from -64 to +64. Forty-nine response sheets were scored and double-checked for accuracy for the pretest; 47 for the posttest. This attitude scale also has acceptable reliability: the coefficient of reliability between odd items and even items, corrected for length, was .90.

As shown in Figure 6, the attitude scale produced a broad range of scores, distributed in a fairly normal manner on both

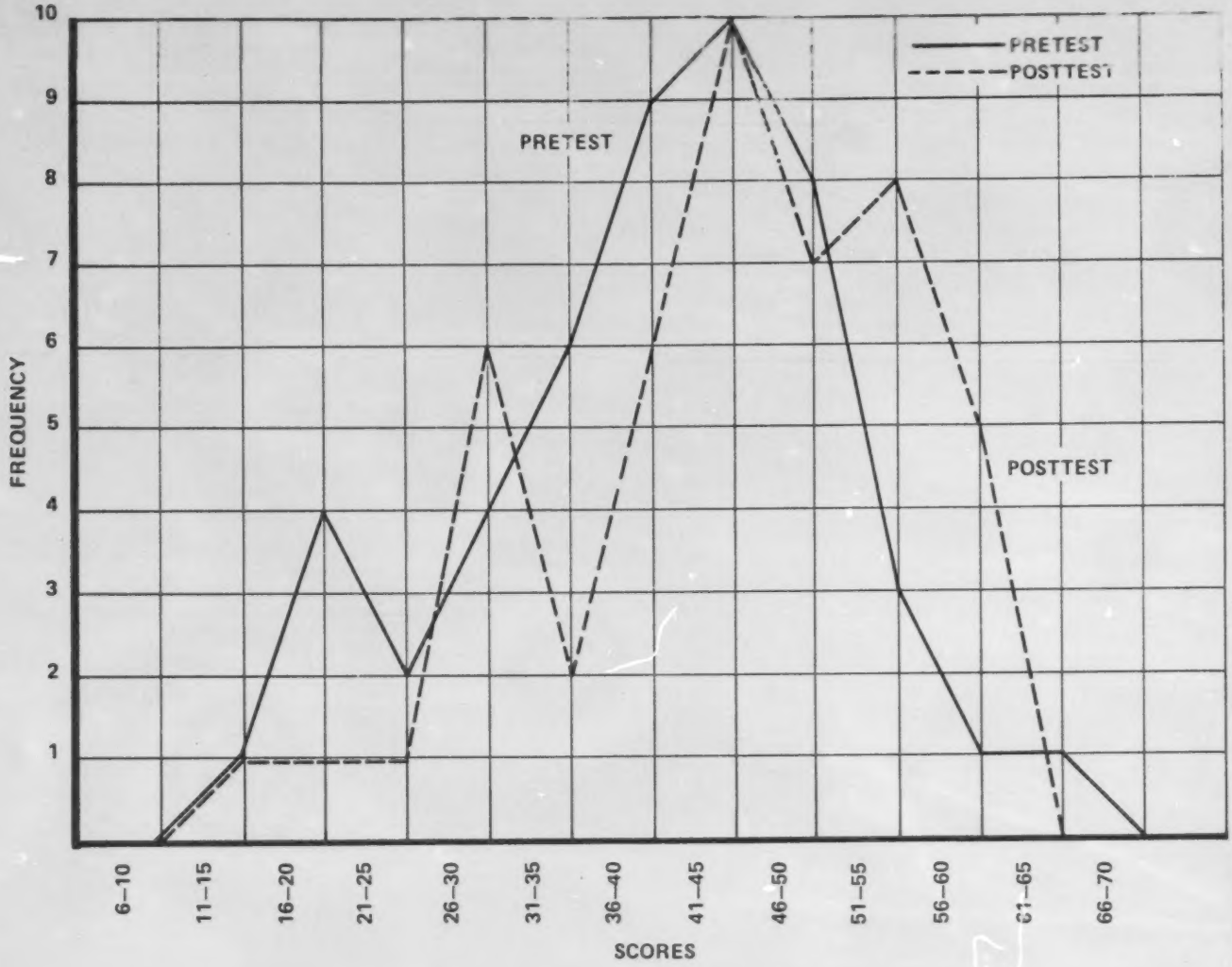


FIGURE 6. Attitude Scale Scores

the pre and posttest. Table 7 shows the mean scores and other descriptive statistics for each school on both pretest and posttest.

A t-test for matched pairs showed a significant difference between pre and posttest attitude scores ($t = 2.821$, $df = 9$, $p < .05$), with the posttest significantly higher. The "educational significance" of this difference is less marked than the knowledge test; the difference between pre and posttest means is only .4 of one standard deviation (i.e., the gain averaged about four points on the attitude test from pretest to posttest).

These findings support Objective 1b, which predicted an increase or no change in positive attitude scores after the CPSS program.

Three control schools also took the attitude scale at posttest time. The mean score for these was 37.2; the standard deviation 9.5 (see Table 8). As with the knowledge tests, these scores are very similar to the pretest experimental school scores (Table 8).

Table 7

Mean Scores on CPSS Attitude Scale of
Steering Committee Members in Experimental Schools

School Code	Mean Score	
	Pretest	Posttest
01	43.5	47.8
03	42.0	49.0
04	51.3	44.8
06	33.2	43.3
07	29.4	35.8
10	39.7	46.7
12	28.6	35.7
14	42.2	41.8
16	38.0	39.3
17	38.1	46.0

Pretest

mean = 38.6

range of means = 28.6 to 51.3

range of raw scores = 15 to 61

n = 49

standard deviation of raw scores = 10.9

Posttest

mean = 42.8

range of means = 35.7 to 49.0

range of raw scores = 11 to 59

n = 47

standard deviation of raw scores = 11.1

Table 8

Attitude Scores for Control Schools

School Code	Mean
02	36.3
05	32.8
08	42.0

Grand mean = 37.15

Range of raw scores = 26 to 60

n = 13

SD = 9.47

CONCLUSIONS

The Career Planning Support System Assessment Study was designed to test the effectiveness of CPSS and was guided by two objectives stated as hypotheses. The first hypothesis stated that school staffs using CPSS for one year would develop a systematic plan for career guidance. A subset of related objectives addressed experimental school staffs' knowledge of CPSS and their attitudes toward systematic planning. It was assumed that increased knowledge and favorable attitudes would reinforce school staffs' use of a systematic plan for career guidance.

The second hypothesis stated that school staffs involved in CPSS for one year would develop a plan that contained activities having a high probability of improving student career development skills.

The findings reported for Objectives One, 1a, and 1b support the associated research hypotheses with $p < .001$, $p < .001$, and $p < .05$ levels of significance, respectively. These results suggest that during one year school staffs with school characteristics similar to the schools and staffs involved in the Assessment Study can successfully use the CPSS materials to generate a systematic plan for career guidance as defined by the successful completion of key planning steps:

1. organization of staff
2. needs assessment
3. goal setting
4. preparation of student behavioral objectives
5. design of career development units

Additional evaluations related to other components of the CPSS, i.e., resources assessment, annual program review and program re-assessment, were not attempted either because of difficulties experienced in trying to design valid measurement schemes or because of the time limits prescribed by the study. CPSS requires three school years to install completely; the Assessment Study focused only on the first year products of the use of CPSS.

The results specified for Objective Two support a trend toward higher quality career development activities in experimental schools. Of the eight statistical tests of change (4 ANOVA's and 4 ANCOVA's) reported for the associated research hypothesis, four were significant at the $p < .01$ level and four were not significant at the $p < .01$ level. However, even in the instances where the findings were not significant, the direction of differences between experimental and control schools favored the research hypothesis (see Figure 4).

Although the support for Objective Two is not as strong as that reported for Objectives One, 1a and 1b, the evidence reported for all objectives supports the research hypotheses.

The findings of this study were condensed into a Joint Dissemination Review Panel submission (see Appendix K), a major

product of this assessment effort. The results of the Panel's evaluation of the submission were not available at the time of the final report publication.

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APPENDIX A

Dissemination Plan

CAREER PLANNING SUPPORT SYSTEM (CPSS)
ASSESSMENT STUDY 1978-79

Dissemination Plan

As specified in the Technical Proposal, p. 36, dissemination of CPSS and the results of the assessment study is an important outcome of the CPSS project. The following proposed dissemination plan has been prepared to meet the intentions for dissemination of CPSS presented in the Technical Proposal.

DISSEMINATION PLAN

Goals

1. The CPSS package of materials will be reviewed and revised to correct minor printing errors and to include new information regarding the assessment study.
2. Information regarding the assessment of CPSS will be presented in journals and at conferences; and information regarding the validity of the CPSS materials will be provided to guidance professionals (federal, state, local guidance staff, counselor educators, vocational educators and advisory groups).
3. Each state department of guidance will receive a complimentary copy of the CPSS package.

Objectives

1. A. Each printed manual will be reviewed for typographical errors. New information about sites and a new forward will be prepared. The CPSS Decision Guide and Brochure will be updated. A new binder for the manuals and a container for the audio-visual materials will be designed.

2. A. Federal, state and local guidance professionals (5,000) will be invited to participate in a pre-American Vocational Association (AVA) convention workshop on CPSS on November 30, 1979 in Anaheim, California. Project staff and CPSS coordinators from three of the CPSS experimental schools will present the results of the CPSS assessment study, review the CPSS procedural system and give advice to participants on securing funding for implementation of CPSS, including the National Diffusion Network.

   B. Journal articles will be written before the end of the project. Two types of articles have been drafted, one geared toward the practical aspects of the use of CPSS, i.e., what student needs were reported in the study, what factors impeded or enhanced the progress of CPSS in the school; and two, an article written for a research journal which describes the methodology for the evaluation of CPSS, e.g., instruments used, reliability, implications of rating procedures.

   C. In addition to the pre-AVA convention workshop described in Objective 2A, an executive summary of the CPSS Assessment Study will be prepared and distributed to 5,000 guidance professionals and others throughout the U.S. by November 30, 1979.

3. A. A complete package of the updated CPSS materials will be mailed to state guidance directors in all the states and territories by November 30, 1979.

Methods

The key audience will be those professionals associated with career guidance at the local, state, regional and federal levels. Others who will

be contacted are vocational education professionals, counselor educators, and school administrators. Other research and evaluation professionals may receive notification of project results through the normal dissemination procedures in operation at the National Center, i.e., the National Center Clearinghouse, ERIC, and the Research Exchange.

Expected Outcomes

The expected outcomes of the dissemination plan are to report the practical usefulness of CPSS as a result of the national assessment. Analysis of the data is expected to provide evidence of the positive impact of CPSS in high schools. The purposes of the dissemination plan are to: 1) increase educators' awareness of CPSS and its benefits, 2) report JDRP approval of CPSS (provided approval is secured), and 3) describe the methods used to assess the extent of planning for career development in a school setting and the possible effects of such planning on students.

APPENDIX B

Career Development Program Status Report

CAREER DEVELOPMENT PROGRAM STATUS REPORT

National Center for Research in
Vocational Education
1960 Kenny Road
Columbus, Ohio 43210

Introduction

The career development program status report is a data collection instrument. Information will be collected from four distinct categories of data relative to a school's career development program planning:

I Site Description—Community, school district and school

II Career Development Program Description—staff organization, state and district goals, and an overview of activities and resources

III Present Planning Efforts—personnel, assessment, and evaluation activities

IV Projected Planning Efforts—personnel, assessment, and evaluation activities

Directions

PLEASE TYPE ALL INFORMATION IN THE REPORT

Please complete the report as fully as possible. Some questions request copies of documents, such as, goal lists, staff lists, brochures about your school's career development program, audiovisual materials lists, program plans or lesson plans. Whenever possible include copies of the documents in the appropriate "attachments" section. For example, item no. 4 on page 3 refers to your school's course offerings and calendar. A copy of each should be included in the section marked "attachment 1" because item no. 4 on page 3 is a part of Category I, SITE DESCRIPTION. The same procedure should be followed for any documents requested in the other categories: II, PROGRAM DESCRIPTION; III, PRESENT PLANNING; IV, PROJECTED PLANNING. If there is no information available for a question or section, please write N/A (not applicable) in the space.

A National Center staff member will pick up and review the completed report during the Spring visit to your school. You and the National Center Staff member will review the report to gether to insure completeness.

If you have any questions about the report, please call James Pearsol, Program Associate, (614) 486-3655, ext. 406. **Information included in this report will remain strictly confidential.**

CAREER DEVELOPMENT PROGRAM STATUS REPORT

Please type all information in the report

Name of School _____

Address _____

_____

_____

Zip Code

Name of Principal _____

Person Completing this Report _____

Address (if different from above) _____

_____

_____

Phone Number _____

Position _____

Date of Report Completion _____

National Center for Research in
Vocational Education
1960 Kenny Road
Columbus, Ohio 43210

CAREER DEVELOPMENT PROGRAM STATUS REPORT

I. SITE DESCRIPTION

A. Community

1. To the best of your knowledge, identify the primary sources of income for residents of your attendance area by **ranking** the **four** most prevalent sources of income from the following list (1=most prevalent, 2=next highest, etc.):

Professional, Technical, Managerial _____

Clerical and Sales _____

Service _____

Farming, Fishery, Forestry and Related Occupations _____

Processing _____

Machine Trades _____

Benchwork _____

Structural Work _____

Miscellaneous _____

2. Please list *sources of information* which your school has for general use which include descriptions of community resources available for career development activities. This should include such items as local post-secondary institutions, organizations available for job placement assistance, social or cultural service organizations, Federal agencies, business and industry, state and local agencies.

B. School District

1. The total enrollment of your school district is _____ students. This figure represents students in grades _____ – _____

2. There are _____ junior high or middle schools which feed into your high school.

3. Please describe or attach information regarding career education goals for the feeder schools.

C. **School**

1. Enrollment

	Number of Students Male	Female
Grade 9 (if appropriate for your school)	_____	_____
Grade 10	_____	_____
Grade 11	_____	_____
Grade 12	_____	_____
Total	_____	_____

2. Faculty/Staff

	Number
Administrators	_____
Secretarial/Clerical	_____
Counselors	_____
Teachers	_____
Fulltime Specialists (please list)	_____

_____

_____

_____

3. Part Time Support Personnel

List the support personnel assigned to your school (such as psychologists, social workers, speech therapists, etc.), and the amount of time each spends in your school.

Type	No. of Days in School	Duties

4. Please attach a list of your school's course offerings and a 1978–79 school calendar.

II. CAREER DEVELOPMENT PROGRAM DESCRIPTION

A. Staff Organization

Using the most current information you can find, show (1) the school district's organizational chart and (2) your school's organizational chart, including lines of authority overseeing guidance/career education activities. If it is not clearly shown on the organizational chart, provide a list of primary decision-makers and their positions and a list of committees involved with career guidance, if appropriate.

B. **State and/or District Career Education Goals**

Attach, or write below, the career education goals for your state or district. Are these prescribed or suggested? If there are none, please write N/A.

C. **Overview of Career Development Activities**

Please include as many copies of the next page as are necessary to fully, yet briefly, provide an overview of present career development activities in your school. **One form should be completed for each major activity** (e.g., event, instructional unit, group of activities or course). These should include both counselor and teacher-initiated activities. The following should help to clarify the type of information that is desired.

1. **Name of Activity:** Use only if the activity has an official and/or popular designation that most people will recognize. If not, use **Identifying Title.**

   Identifying Title:

2. **Goal(s):** List the stated goal(s) for the activity, if available, and how it was determined that the activity was appropriate for career development in your school.

3. **Objective(s):** List the stated objectives for the activity, if available.

4. **Activity Leader:** List the individual(s) within and, if appropriate, outside the school who has prime responsibility for the activity.

5. **Target Student Group:**

6. **Location:** Identify where the activity is being conducted.

7. **Schedule:** Provide the approximate date(s) or time period(s) during which the activity is conducted and number of times presented.

8. **Activity:** Briefly describe the activity. If possible, include methods, materials, and the amount of time needed by students to complete the method.

9. **Resources:** Include the following, if appropriate and available.

   People:
   Materials:
   Equipment:
   Space:
   Funds:

10. **Evaluation:** Briefly describe any evidence that indicates that the activity is effective and appropriate for continuation (both student evaluation and instructor evaluation).

NOTE: Make as many copies of this form as needed.

CAREER DEVELOPMENT ACTIVITIES

Please Type

1. **Name of Activity.**

2. **Goal(s):**

3. **Objective(s):**

4. **Activity Leader(s):**

5. **Target Student Group:**

6. **Location:**

7. **Schedule:**

8. **Activity:**

9. **Resources:**

   People:

   Materials:

   Equipment:

   Space:

   Funds:

10. **Evaluation.**

D. **Overview of School Resources**

1. Career Development Print and Audio Visual Materials (include catalog or listing if available). Identify type of material and approximate number.

2. Equipment: Identify types and number of audio visual equipment available for use in your career development program.

3. Space: Identify any specific space that is available for career development activities.

4. Funds: List the funds available for career development activities; include sources, amounts and any restrictions on their use.

III. PLANNING EFFORTS FOR YOUR SCHOOL'S CAREER DEVELOPMENT PROGRAM INITIATED DURING THE 1978-79 SCHOOL YEAR

NOTE: Indicate N/A for any items which do not apply.

A. Personnel Involvement in Planning

	Number Involved	Nature and Scope of Involvement (include amount of time involved and committee structure, if appropriate)
Administrators		
Counselors		
Teachers		
Students		
Parents		
Community Representatives		
Others (please specify)		

B. **Assessment and Evaluation Activities**

1. Briefly describe or attach copies of any needs evaluation activities or surveys for career development which were conducted in the 1978-79 school year. Be sure to include who was surveyed, methods used, and what the results were.

2. Briefly describe or attach copies of any community and school resource surveys which were conducted in the 1978-79 school year. List types of resources surveyed (i.e., people, equipment, materials, space, funds, external services).

3. Briefly describe any procedures which were used to review or evaluate the 1978-79 career development program at your school.

4. Do you have specific career development program goals established for your high school?

Yes _____ No. _____ If yes, answer the following questions.

a. How were the career development program goals for this school year (1978-79) determined?

c. Were priorities established for the goals?
How were goal priorities established?

d. Were objectives for faculty/staff and students written for the goals? Yes_____ No _____.
What was the procedure for writing objectives?

5. Indicate any change in career development program activities for the 1979-80 school year which may have resulted from a review or evaluation of the 1978-79 career development program.

IV. **PROJECTED** PLANNING EFFORTS FOR YOUR SCHOOL'S CAREER DEVELOPMENT PROGRAM TO BE INITIATED DURING THE 1979-80 SCHOOL YEAR

NOTE: Indicate N/A for any items which do not apply.

A. Personnel Involvement in Planning

	Number Involved	Nature and Scope of Involvement (include amount of time involved and committee structure if appropriate)
Administrators		
Counselors		
Teachers		
Students		
Parents		
Community Representatives		
Others (please specify)		

B. **Assessment and Evaluation Activities**

1. Briefly describe any needs evaluation activities for your school's career development program which are planned for the school year (1979-80), including method and extent of evaluation.

2. Briefly describe any community and school career development resource surveys planned for the school year (1979-80) and describe method and extent.

3. What process will be used for determining goals for the school's 1979-80 career development program?

4. Briefly describe any new career development program activities which you hope to develop during the coming year (1979-80) for implementation. How was it determined that these would be appropriate career development activities?

5. What plans, if any, do you have for reviewing or evaluating your career development program at the end of the school year (1979-80)? How will the review be conducted?

V. CLARIFICATION AND COMMENTS

Please use this space to make any clarifying remarks, or to provide additional information about your school's career development program. Please indicate question number if remarks pertain to a specific section of this report. Attach extra page(s) as needed.

APPENDIX C

Verification Checklist

VERIFICATION CHECKLIST

National Center for Research in
Vocational Education
1960 Kenny Road
Columbus, Ohio 43210

VERIFICATION CHECKLIST

Name of School _____

Address _____

_____

_____

Zip Code

Name of Principal _____

National Center Staff Member _____
(person completing report) Signature Date

_____
Typed Name

I have reviewed the information in the checklist and verify the accuracy of the information.

Site Representative _____
Signature Date

_____
Typed Name

_____
Position

VERIFICATION CHECKLIST

Directions

The National Center staff member completing the form should base his/her responses on information gained through documentation available at the site. Site records and logs should be examined. Copies of documents such as rosters of committee members, schedules, and agendas should be obtained to supplement checklist responses. In addition, some interviewing of key personnel may be considered.

It may be necessary for the staff member to exercise judgment about the accomplishment of planning activities at some of the sites. For example, in making judgments about the needs evaluation, it may be that a general needs assessment study was conducted for the school or the school district. Whether or not this study meets the intent of a needs evaluation for career development depends upon such considerations as the recency of the study, the degree of its focus upon career development, and the extent to which the study conformed to accepted needs evaluation procedures.

The checklist provides space for comments to clarify checklist responses. The staff member should use this space to record information which supports his/her responses.

COMMITTEES

	YES	NO
1. Was a Career Development Program Planning Committee selected?	_____	_____
2. Were selection criteria established for selecting Career Development Program Planning Committee members?	_____	_____
3. Was orientation to career development program planning provided for committee members?	_____	_____
4. Did the committee meet on a regular basis throughout the planning effort?	_____	_____
5. Did the committee coordinate the planning activities?	_____	_____
6. Was an advisory committee organized?	_____	_____
7. Were selection criteria established for selecting members of an advisory committee?	_____	_____
8. Was orientation to career development program planning provided for advisory committee members?	_____	_____
9. Did the advisory committee meet on a regular basis?	_____	_____
10. Were recommendations suggested by advisory committee incorporated into the program planning whenever feasible and practical?	_____	_____

Comments:

IDENTIFICATION OF RESOURCES

	YES	NO
1. Has a committee been selected to identify resources?	_____	_____
2. Was orientation to career development planning provided to committee members?	_____	_____
3. Have current career development activities been identified?	_____	_____
4. Have school resources necessary for career development been identified?	_____	_____
5. Have community resources necessary for career development been identified?	_____	_____
6. Has a school and community description been prepared?	_____	_____
7. Have available resources been matched with specific career development activities?	_____	_____

Comments:

IDENTIFICATION OF NEEDS

	YES	NO
1. Has a committee been selected to identify needs?	____	____
2. Was orientation to career development program planning provided for committee members?	____	____
3. Has a comprehensive needs evaluation for career development been conducted?	____	____
a. Were students surveyed?	____	____
b. Were faculty/staff surveyed?	____	____
c. Were graduates surveyed?	____	____
d. Were parents surveyed?	____	____
4. Have needs data been tabulated and analyzed?	____	____

Comments:

GOAL SELECTION

	YES	NO
1. Was a comprehensive set of career development program goals devised as a result of identified needs?	_____	_____
2. Were priorities assigned to goals based upon the identified needs?	_____	_____
3. Were goals selected for implementation?	_____	_____
4. Was a career development program goal review conducted?	_____	_____

Comments:

CAREER DEVELOPMENT PROGRAM ACTIVITIES

		YES	NO
1.	Have potential career development activities been identified?	____	____
2.	Have instructors been selected?	____	____
3.	Have instructors been trained/prepared?	____	____
4.	Have program activities been written?	____	____
5.	Have program activities been reviewed and approved?	____	____
6.	Were program activities implemented?	____	____
7.	Were program activities evaluated?	____	____

Comments:

CAREER DEVELOPMENT PROGRAM REVIEW

	YES	NO
1. Has a general, annual review of the career development program been conducted?	_____	_____
2. Has the extent of implementation of each career development program activity been determined?	_____	_____
3. Have goals not yet implemented been reviewed for potential implementation?	_____	_____
4. Have decisions been made regarding program revision and/or expansion for the ensuing years?	_____	_____

Comments:

APPENDIX D

Career Development Program Rating Instrument and Directions

CAREER DEVELOPMENT PROGRAM
RATING INSTRUMENT

Definitions and Directions

Your task is to use a rating instrument to rate a school's career development program plan as reported through two information references, "The Career Development Program Status Report" and "The Verification Checklist" (defined below). Before you begin the rating tasks, READ THE FOLLOWING DEFINITIONS AND DIRECTIONS.

Definitions

1. Reference - any information source describing a school's career development program which is identified and provided to the rater to answer an item on the rating instrument.

2. S.R. - Career Development Program Status Report - a reference and information source, usually green in color. This document is a report generally prepared by school personnel describing the school career development program.

3. V.C.L. - Verification Checklist - a reference and information source, blue in color. This document is a form prepared jointly by school personnel and project staff describing the school career development program.

4. Career Development Activities - two specific career activities used as sources of information for raters (yellow cover sheet).

5. Additional Career Activities - career activites used to answer the last item on the rating instrument (pink cover sheet).

Directions

1. READ ALL THE INFORMATION PROVIDED FOR THE SCHOOL YOU ARE TO RATE BEFORE YOU USE THE RATING INSTRUMENT TO RATE THE SCHOOL. This will familiarize you with the information available in the references.

2. The rating instrument consists of 33 items and is divided into 7 sections. Each section has directions which apply to the items in that section. When answering an item, place an "X" or "✓" in the brackets [answer spaces] that in your judgment provide the best answer(s) to the rating items.

3. (a) References are listed in the rating instrument either at the beginning of each section in the directions or following each item stem. The references listed are the only sources of information to be used in rating an item. If a reference reads S.R. p. 11-B, 1, it refers to the following:

   S.R. = Career Development Program Status Report - green
   p. 11 = page eleven
   B, 1 = section B, number 1

If a reference reads VCL p. 3-1, it means:

VCL = Verification Checklist - blue
p. 3 = page three
1 = number 1

(b) READ EACH REFERENCE THOROUGHLY BEFORE ANSWERING THE RATING ITEM. Next to each reference will be a number or phrase (either "1", "2" or "no priority"). The reference numbered "1" should be given primary significance. For example, [Reference: 1. SR p. 13-4, a; 2. VCL p. 4-1]. Status Report page 13 number 4a should be considered most accurate if there is conflicting information. If there is no conflicting information, use your best judgment based on the information referenced.

In the instance when both references are of equal value, "no priority" is listed. This means that the rater should use all the information available to make the rating, with no special significance attached to either reference.

(c) On the reference sources listed above, the Status Report (SR) and the Verification Checklist (VCL), the rater will often find "attachments" listed. The rater should always consider the attachment as part of the reference when answering an item. For example, SR p. 5 might include as part of a response, "See Attachment I." The rater should then turn to Attachment I, read it, and consider it part of SR p. 5 when answering the item.

(d) In Sections IV and VII of the rating instrument, other references are listed either in place of or in addition to the Status Report (SR) and the Verification Checklist (VCL). In Section IV, the rater will use only the two attached career development activities (yellow cover sheet). In Section VII, the rater will use all the references provided. (The directions for each section or item will alert the rater to special reference considerations.)

4. Confidence Rating. After each item you will find a confidence rating. This rating is to be used to report the rater's confidence that the answer marked is correct. It reads as follows:

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%
no confidence
complete confidence

5. Goals and Objectives. When rating Sections II and III, whenever a reference uses the word "goal", consider it a goal. Whenever a reference uses the word "objective", consider it an objective, even though you may suspect that the person completing the form did not know the difference.

6. The information listed in the references is the best information available to answer each rating item. Please use the information to make your best estimate even when you are uncertain, then use the confidence rating to express your uncertainty.

School No. _____

Rater _____
(number)

CAREER DEVELOPMENT PROGRAM
RATING INSTRUMENT

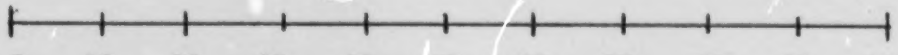
I. Directions: When answering items 1-4, consider the extent to which student needs for career development skills were identified through a needs assessment.

1a. Was an assessment of student career development needs conducted? [References: 1. SR p. 11; 2. VCL p. 3-3].

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION II, p. 3 →

[ ] Yes (1)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



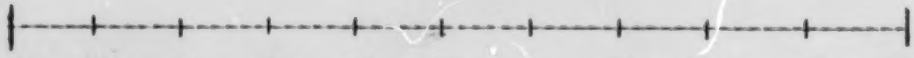
0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

1b. If yes, determine whether the needs assessment was: [References: 1. SR p. 11; 2. VCL p. 3-3].

[ ] conducted only in the specific school (1)

[ ] conducted in a larger unit, such as a school district (0)

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

2. Was the needs assessment designed to assess student needs for career development skills or to determine some other information, such as, a needs assessment of counselor roles in career development?
[References: 1. SR p. 11; 2. VCL p. 3-3].

[ ] Student centered (1)

[ ] Non-student centered (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

3. Were the results of the needs assessment tabulated?
[References: 1. VCL p. 3-4; 2. SR p. 11].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION II. p. 3. →

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

4. Determine the range of respondents to the needs assessment by checking below each of the groups that completed a questionnaire for the needs assessment.
[References: 1. VCL p. 3-3 a, b, c, d; 2. SR p. 11].

[ ] a. Students

[ ] b. Faculty

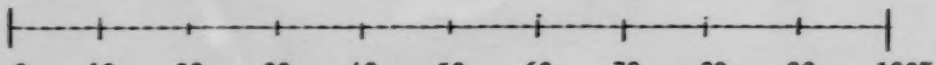
[ ] c. Recent graduates

[ ] d. Parents

[ ] e. Other

[ ] f. None

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



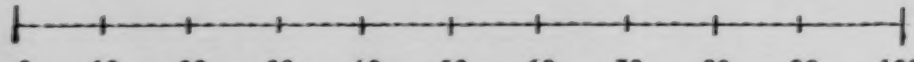
II. Directions: When answering items 5-7, consider the extent to which goals were established for improving student career development skills.

5. Are explicit goals for student career development reported?
[References: (no priority) SR p. 5 and SR p. 13].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION III. p. 4. →

CONFIDENCE RATING:



6. Were these career development goals formulated from the results of a needs assessment?
[References: 1. SR pp. 13 and 14c; and 2. VCL p. 4-1].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION III, p. 4. →

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

7. Were the reported goals for student career development organized in order of priority based upon identified needs?
[References: (no priority) SR p. 14-c and VCL p. 4-2].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION III, p. 4. →

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

III. Directions: When answering items 8-10, consider the extent to which objectives were written for student career development skills.

8. Are explicit objectives for student career development reported?
[References: (no priority) SR p. 5 and SR p. 14-d].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO SECTION IV, p. 6. →

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

9. Use the following references for items 9a-d.
[References: (no priority) SR p. 5 and SR p. 14-d].

9a. Do most of the objectives state who are the key actors (e.g., students, faculty)?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

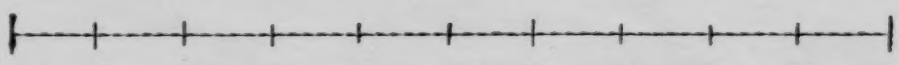
0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

9b. Do most of the objectives state what behavior is to be demonstrated?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:



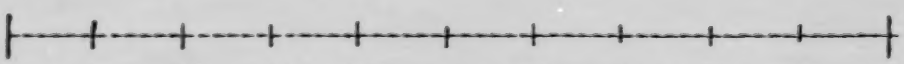
0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

9c. Do most of the objectives state what are the conditions under which the behavior is to be demonstrated?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

9d. Do most of the objectives state what degree of success is required to achieve the objective?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

10. Were the reported objectives written for, and designed to achieve specific student career development goals? REVIEW ITEMS 5-9. [References: (no priority) SR p. 13, SR p. 5, and SR p. 14-d].

[ ] Always (3)

[ ] Most of the time (2)

[ ] Occasionally (1)

[ ] No (0)

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%
no confidence — complete confidence

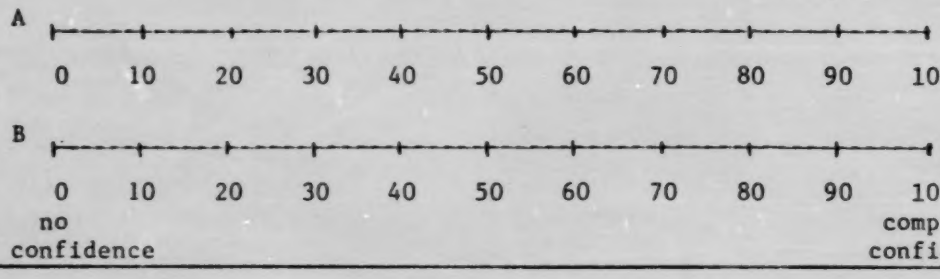
IV. Directions: Rate the attached career development activities (yellow only) on the criteria listed in items 11-20. If you have two career development activities to rate, rate the first activity using column "A" and rate the second activity using column "B". If only one activity is attached, use column "A". If you have no activities to rate, check the box below.

[ ] No career development activities attached → SKIP TO SECTION V, p. 14. →

11. Is there a goal listed for the career development activity?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO ITEM 13, p. 8. →

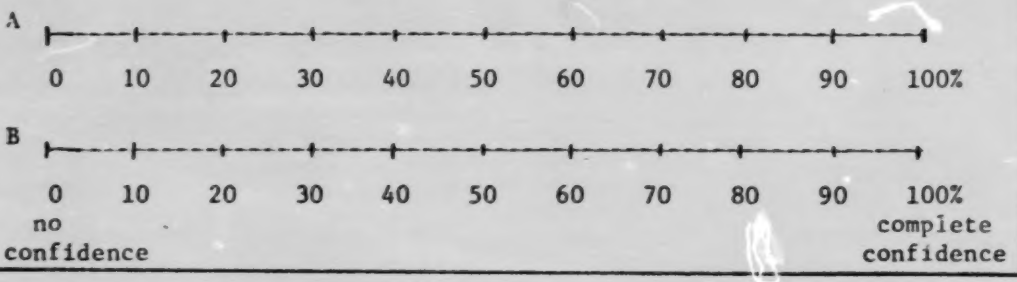
CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



12. Is the goal listed for the career development activity reported on SR pp. 5, 13 or 14?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING:



13. Is an objective (or objectives) listed for the career development activity?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO ITEM 15, p. 10 →

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

A

0 10 20 30 40 50 60 70 80 90 100%

B

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

14. Answer the following questions (14a-d) for activity A in the column marked A and for activity B in the column marked B.

14a. Do most of the objectives listed in the activity state who are the key actors (e.g., students, faculty)?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING:

A

0 10 20 30 40 50 60 70 80 90 100%

B

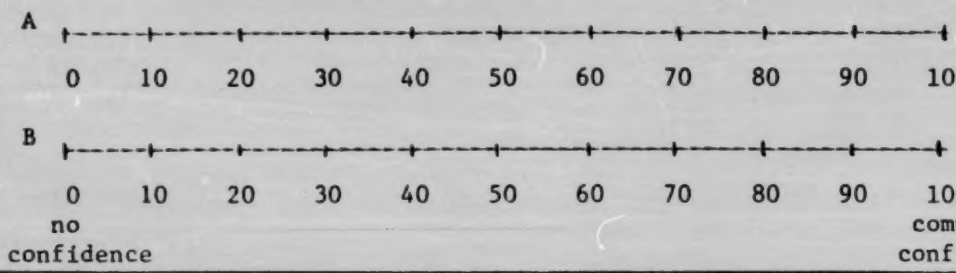
0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

14b. Do most of the objectives listed in the activity state what behavior is to be demonstrated?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

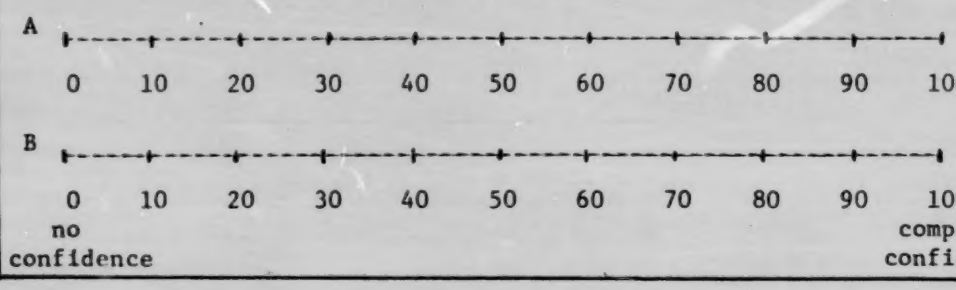
CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



14c. Do most of the objectives listed in the activity state what are the conditions under which the behavior is to be demonstrated?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

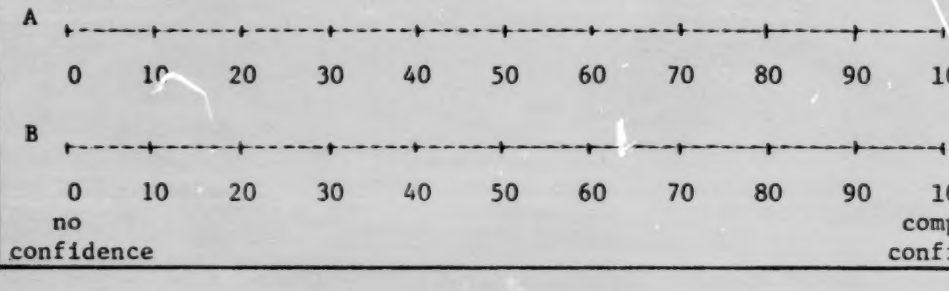
CONFIDENCE RATING:



14d. Do most of the objectives listed in the activity state what degree of success is required to achieve the objectives?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

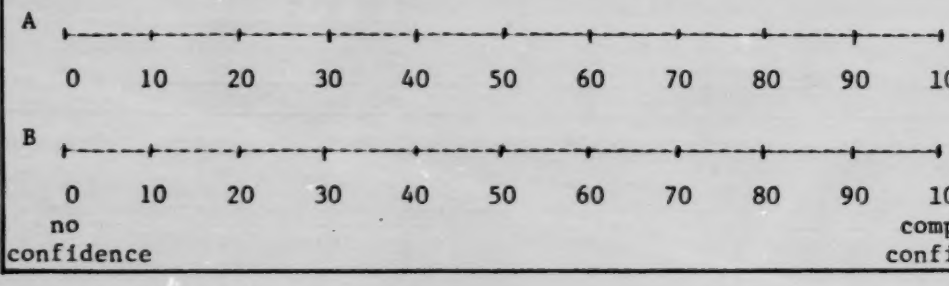
CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



15. Was a target student group reported for the activity? (e.g., the 284 members of the junior class, or the 77 sophomores in Biology 100)

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING:



16. Were explicit methods for instruction reported for the career development activity?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

A

0 10 20 30 40 50 60 70 80 90 100%

B

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

17. Is there reported evidence that the effects of the career development activity are determined by means of a student outcomes measure?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING:

A

0 10 20 30 40 50 60 70 80 90 100%

B

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

18. Based on your experience, what is the chance that the methods described for each of the activities will achieve the specific objectives listed for the activity? IF YOU MARKED "NO" TO EITHER ITEM 13 OR ITEM 16, MARK "NOT APPLICABLE" AND SKIP TO ITEM 19

	Good Chance	Some Chance	Little Chance	Very Little Chance	Not Applicable
Activity A:	[ ]	[ ]	[ ]	[ ]	[ ]
Activity B:	[ ]	[ ]	[ ]	[ ]	[ ]

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

A

0 10 20 30 40 50 60 70 80 90 100%

B

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

19. What is your best estimate of the chance that each of the career development activities will improve student career development skills, irrespective of whether the career development skill is listed as an objective of the activity.

	Good Chance	Some Chance	Little Chance	Very Little Chance
Activity A:	[ ]	[ ]	[ ]	[ ]
Activity B:	[ ]	[ ]	[ ]	[ ]

CONFIDENCE RATING:

A

0 10 20 30 40 50 60 70 80 90 100%

B

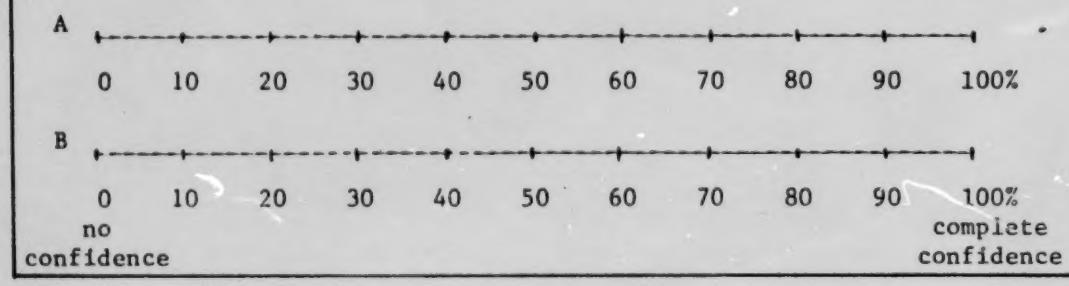
0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

20. Based on your experiences with the career development needs of high school students, does each activity meet a student career development need?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

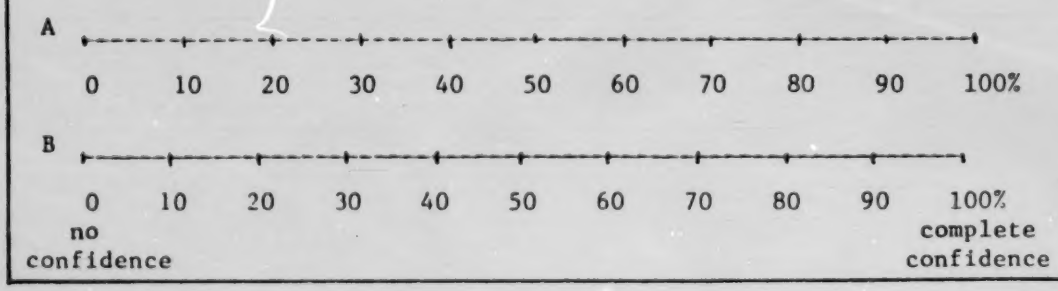
CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



21. Is each activity constructed to permit easy use by faculty and staff?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING:



22. Is each activity constructed to encourage student acceptance?

A	B	
[ ]	[ ]	Yes (1)
[ ]	[ ]	No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

A

0 10 20 30 40 50 60 70 80 90 100%

B

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

V. Directions: Items 23-26 refer to staff organization for the career development program. Rate the items as presented.

23. Was a committee selected to plan a program for student career development? [References: 1. VCL p. 1-1; 2. SR p. 10].

[ ] Yes (1)

[ ] No (0) → IF NO, CHECK THE CONFIDENCE RATING AND SKIP TO ITEM 26, p.15 →

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

24. Did the committee meet regularly during the planning period? [References: 1. VCL p. 1-4; 2. SR p. 10].

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

25. Did the committee coordinate planning activities?
[References: 1. VCL p. 1-5; 2. SR p. 10].

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0	10	20	30	40	50	60	70	80	90	100%
no confidence										complete confidence

26. When rating items 26a - g. refer back to ITEMS 21-23; VCL p. 1, numbers 1, 2, 3, 4, and 5; and SR p. 10 (no priority).

26a. Were school administrators involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:

0	10	20	30	40	50	60	70	80	90	100%
no confidence										complete confidence

If "Yes", rate the extent of involvement:

[ ] High (3)	[ ] Moderate (2)	[ ] Low (1)	[ ] Negligible (0)	[ ] Cannot Determine (9)

26b. Were school counselors involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

If "Yes", rate the extent of involvement:

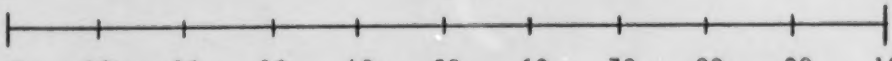
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

26c. Were school teachers involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

If "Yes", rate the extent of involvement:

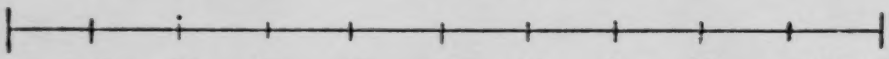
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

26d. Were school students involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

If "Yes", rate the extent of involvement:

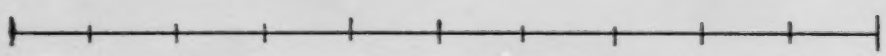
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

26e. Were community members involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

If "Yes", rate the extent of involvement:

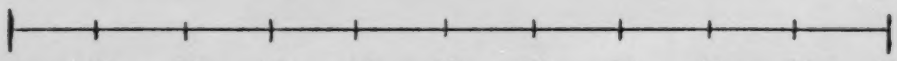
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

26f. Were parents involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



If "Yes", rate the extent of involvement:

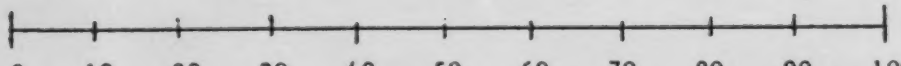
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

26g. Were others involved in planning the career development program?

[ ] Yes (1)

[ ] No (0)

CONFIDENCE RATING:



If "Yes", rate the extent of involvement:

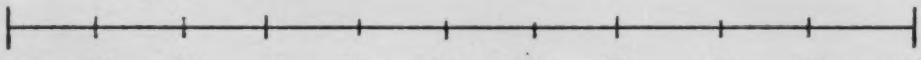
[ ]	[ ]	[ ]	[ ]	[ ]
High (3)	Moderate (2)	Low (1)	Negligible (0)	Cannot Determine (9)

VI. Directions: Item 27 is a probability estimate of the impact of future plans for the career development program in the school. Rate the item as presented.

27. If the plans reported on SR pp. 16-20 are carried out, what, in your experience, is the chance that student career development skills will be improved?

[ ]	[ ]	[ ]	[ ]
Good Chance	Some Chance	Little Chance	Very Little Chance

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

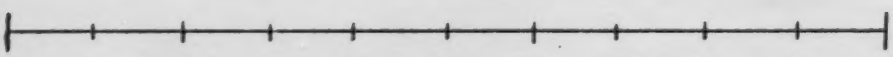
VII. Directions: After completing the previous items, you probably will have formed judgments about the overall career development program of the school. Use SR pp. 5 and 10-20, VCL pp. 1 - 3 and 4, and all previous items to rate the following items except item 32. Item 32 requires you to use only the yellow career development activities. Place a check in the response space that best represents your judgment on each item.

28. Estimate the extent to which the school staff was organized to plan systematically a comprehensive career development program by evidence of clearly designated leadership; administrative cooperation; and permanent, active groups and committees.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%

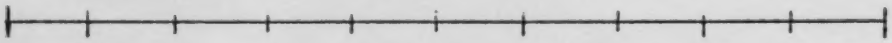
no confidence — complete confidence

29. Estimate the extent to which a student career development needs assessment was conducted, tabulated, properly interpreted, and the data utilized for planning the career development program.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



0 10 20 30 40 50 60 70 80 90 100%

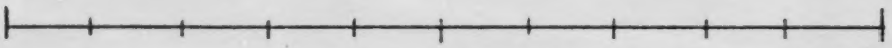
no confidence — complete confidence

30. Estimate the extent to which a comprehensive set of ordered career development goals reflecting assessed student career development needs were developed and used in planning, implementation and evaluation of the program.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

CONFIDENCE RATING:



0 10 20 30 40 50 60 70 80 90 100%

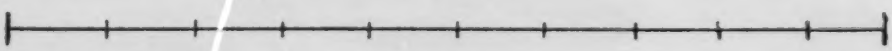
no confidence — complete confidence

31. Estimate the extent to which a set of behavioral objectives was developed reflecting specific goals and containing a clear statement of the intended audience, behavior, situation and standard of mastery.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)

Limited Extent — Great Extent

CONFIDENCE RATING:



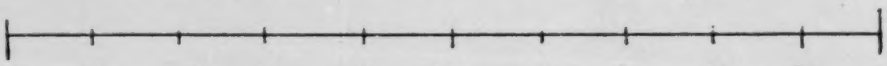
0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

32. Estimate the extent to which career development activities were developed that reflect student needs, goals, and associated objectives, and that indicate methods, target student group and outcome measures <u>by referring to the two attached career development activities (yellow)</u>.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)
Limited Extent				Great Extent

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

33. Based on the available information (including all yellow <u>and</u> pink career development activities), rate the overall quality of the school's career development program.

[ ]	[ ]	[ ]	[ ]	[ ]
(0)	(1)	(2)	(3)	(4)
Very Low Quality				Very High Quality

CONFIDENCE RATING:

0 10 20 30 40 50 60 70 80 90 100%

no confidence — complete confidence

APPENDIX E

Career Planning Support System Knowledge Test

Test 2

Career Planning Support System
Knowledge Test
for
Steering Committee Members

Instructions: Now that you have taken an attitude survey, we would like to assess your technical knowledge of the activities involved in planning for career development.

This test can only measure the approximate extent of your knowledge due to differences in your educational experiences and interests.

Do not write your name on the test. All tests will be sealed in an envelope immediately after the test and mailed to Ohio State University. Your individual anonymity is guaranteed.

Steering Committee Knowledge Test

1. Planning a career development program should take into account the available resources which include people, programs, materials, equipment, and funds. State why it is important to assess each resource with one sentence.

    a. People

    b. Programs

    c. Materials

    d. Equipment

    e. Funds

2. Performance objectives are a key ingredient in career development instructional units. What is a performance objective?

3. Define "resource accounting" in the sense the term is used in career development program planning.

4. When should continuously used career development units be evaluated?

5. Mention five ways in which students can be involved in planning a career development program.

    a.

    b.

    c.

    d.

    e.

6. One method of achieving a career development program goal is to develop an instructional unit that aids students in attaining the goal. List the components of a comprehensive career development instructional unit.

7. A school's career development program should be reviewed annually. State five criteria that should be used in this evaluation.

8. Which groups of people should be involved in evaluating the success of a career development activity?

9. What function does the statement of the performance objectives serve in the construction of a career development activity?

10. Conducting a needs assessment will yield information that is useful in developing a career development program. Describe the needs assessment procedures which you think would be appropriate for your school. Mention who should be assessed, when the assessment should occur, what should be assessed and how results might be used.

11. List five criteria on which goals for career development programs might be arranged in priority order.

    a.

    b.

    c.

    d.

    e.

12. After goals have been established for the career development program they should be arranged in a priority order. State four reasons why emphasizing goals according to priority is more desirable than emphasizing all goals equally.

    a.

    b.

    c.

    d.

13. A school which assesses community resources should coordinate their assessment with that being done by other schools. Describe three benefits this might provide.

    a.

    b.

    c.

14. Although instructional units for career development are written primarily for students, teachers find them to be very useful. Cite two ways in which teachers might find the units to be valuable.

    a.

    b.

15. Which school staff members should implement a career development unit?

16. List three criteria that are used for selecting career development goals

    a.

    b.

    c.

17. Surveying graduates can yield information useful in planning a school's career development program. Which four kinds of information do you think are most important to collect from the graduates (and those who didn't graduate) and how could each be useful?

    a.

    b.

    c.

    d.

18. Explain the advantages or disadvantages of assessing the needs of students by studying a representative sample of student from all grades compared to studying a specific group of students such as sophomores, potential dropouts, students taking biology, etc.

19. How often in a six-year period should a needs assessment survey of students be conducted? Give three arguments in support of your answer.

    1.

    2.

    3.

20. List and describe four uses for the results of an annual review of a school's career development program.

    1.

    2.

    3.

    4.

21. A. In your opinion, who should participate in writing the behavioral objectives for a career development unit?

    B. State at least two reasons for each person listed above.

22. Give three examples of how resource assessment results might be used in planning a career development program and putting it into effect.

23. What four criteria would you recommend to assess the effectiveness of a career development unit?

    a.

    b.

    c.

    d.

24. State five goals that are typically set for a school's career development program.

    a.

    b.

    c.

    d.

    e.

25. State four bases for identifying goals for a school's career development program.

    a.

    b.

    c.

    d.

26. Newly prepared career development units might contain imperfections which should be corrected before the unit is made available for routine use. In your opinion, name the categories of people who should participate in the preliminary evaluation of such a unit.

27. Please respond briefly to A or B:

A. For each of the program phases randomly listed below, describe in each column who should be involved, the order in which each should occur, and the intended purpose.

Program Phases	Who	When	Purpose
faculty/staff implementation			
needs assessment			
evaluation of the effectiveness of each career development unit			
program review			
setting goals and performance objectives			
resource accounting			
writing career development units			

B. For each of the program phases randomly listed below, describe in each column a potential problem and practical remedy/advice you would give.

Program Phases	Problem	Remedy or Advice
faculty/staff implementation		
needs assessment		
evaluation of the effectiveness of each career development unit		
program review		
setting goals and performance objectives		
resource accounting		
writing career development units		

APPENDIX F

Perceptions of Program Planning for Career Development

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
The Ohio State University · 1960 Kenny Road · Columbus, Ohio 43210
Tel. (614) 486 3655 Cable CTVOCEDOSU/Columbus, Ohio

Dear Steering Committee Member:

We are pleased to have your participation in the CPSS assessment project. Your involvement with CPSS demonstrates your commitment to the development of career planning in your school. In addition, your contribution is a vital part of a nationwide research effort.

The following is a two-part test. The first section assesses your perceptions of planning for career development and the second assesses your technical knowledge of the activities involved in planning for career development.

You will have 45 minutes to complete these tests. Because these are timed tests, please work quickly. If you do not know an answer, simply go on to the next question. You may look back over any unanswered items after you have completed all the questions.

Individual scores will not be used or reported. Your test will be sealed in an envelope when you are finished to insure that your answers remain anonymous. We sincerely thank you for your cooperation.

Sincerely,

Donald C. Findlay

Donald C. Findlay
Project Director
CPSS Assessment Study

Test 1

PERCEPTIONS OF PROGRAM PLANNING FOR CAREER DEVELOPMENT

A. Directions: Based on your perceptions of planning for career programs, will you please indicate your level of agreement with each question. There are no "right" or "wrong" answers on this first evaluation. Please use this scale to express your attitudes toward statements 1 through 17.

Disagree Strongly	Disagree	Neutral	Agree	Strongly Agree
DS	D	N	A	SA

For instance, if you strongly agree with a statement, you would circle SA (strongly agree).

PERCEPTIONS OF PROGRAM PLANNING
FOR CAREER DEVELOPMENT

	Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly
1. Plans for career development programs are best made by teachers, counselors, and career specialists, working separately from each other.	DS	D	N	A	AS
2. Information which could be supplied by graduates has little use for career program planners because of its datedness.	DS	D	N	A	AS
3. Knowing parent attitudes about career development is desirable when planning local programs.	DS	D	N	A	AS
4. Schools need to focus more effort on planning for career development before putting the program into effect.	DS	D	N	A	AS
5. The career development needs of students should be met entirely by counselors.	DS	D	N	A	AS
6. Industry, labor, and the professions should work hand-in-hand with schools in planning career development programs.	DS	D	N	A	AS

	Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly
7. Business, industry, and labor naturally induct students into careers; schools need not be concerned about it.	DS	D	N	A	AS
8. Career development is a highly specialized and critical part of the total school curriculum and should be given appropriate priority, staffing, and reserves.	DS	D	N	A	AS
9. In-school career development activities should be conducted independently of the community. Otherwise, career aspirations of students will be unduly influenced.	DS	D	N	A	AS
10. Since the career development of youth is a universal problem, no special local information about local student status is necessary when planning individual school programs.	DS	D	N	A	AS
11. Schools spend so much time planning for career development that it hinders implementing the program.	DS	D	N	A	AS

	Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly
12. "Subject matter teachers" should cooperatively participate in planning, developing, and implementing career development activities.	DS	D	N	A	AS
13. Developing units of instruction for career development requires too many special skills to be done by the average teacher.	DS	D	N	A	AS
14. The goals for a career development program should be based largely on the identified needs of students.	DS	D	N	A	AS
15. It is sufficient to review a school's career development program once every five years.	DS	D	N	A	AS
16. Career development program goals should be arranged in priority to improve chances of achieving them.	DS	D	N	A	AS
17. Limiting career development activities to community opportunities is a good idea because otherwise students would have unrealistic aspirations.	DS	D	N	A	AS

B. Directions: Please use the following key to complete items 18 to 32.

Very Unlikely	Unlikely	Neutral	Likely	Very Likely
VU	U	N	L	VL

If comprehensive, systematic procedures for planning the career development program were instituted at your school, how likely is it that such planning procedures would:

		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
18.	result in better relationships among faculty/staff and students?	VU	U	N	L	VL
19.	result in more efficient use of resources for career development?	VU	U	N	L	VL
20.	improve present career development planning procedures?	VU	U	N	L	VL
21.	have little potential for directing students toward worthwhile career goals?	VU	U	N	L	VL
22.	result in better student planning for career development?	VU	U	N	L	VL
23.	better meet student needs?	VU	U	N	L	VL

		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
24.	result in more relevant career development program objectives?	VU	U	N	L	VL
25.	increase faculty/staff support for a career development program?	VU	U	N	L	VL
26.	require more work than can be handled by the existing faculty/staff?	VU	U	N	L	VL
27.	identify goals for a career development program?	VU	U	N	L	VL
28.	make me perceive career development more positively?	VU	U	N	L	VL
29.	identify student needs which were not apparent before?	VU	U	N	L	VL
30.	result in an annual career development program review?	VU	U	N	L	VL
31.	result in narrower participation in the implementation of the career development program?	VU	U	N	L	VL
32.	result in biased or stereotyped perceptions of career development?	VU	U	N	L	VL

APPENDIX G

Panel of Expert Judges

CPSS ASSESSMENT STUDY

REVIEW PANEL

Dr. Henry Borow
University of Minnesota
106 Nicholson Hall
Minneapolis, MN 55455

Dr. John Crites
10897 Deborah Dr.
Potomac, MD 20854

Dr. William Erpenbach
Wisconsin Dept. of Public Instruction
126 Langdon St.
Madison, WI 53702

Dr. Larry Gulick
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Grove City, OH 43123

Dr. David Jesser
1872 South Pierson Ct.
Lakewood, CO 80226

Ms. Elaine Jones
Ft. Steilacoom Community College
9401 Farwest Dr.
Tacoma, WA 98498

Dr. G. Brian Jones
American Institutes for Research
1791 Anastradero Rd.
P.O. Box 1113
Palo Alto, CA 94302

Dr. Robert Lathrop
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University of Michigan
Ann Arbor, MI 48109

Dr. Clayton Omvig
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Dr. Alice Scales
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Pittsburgh, PA 15260

Dr. Bruce Shertzer
Education Building
Purdue University
W. Lafayette, IN 47907

Ms. Jessie Teddlie
1952 Yucca Trail
Hurst, TX

APPENDIX H

Original Target Cities

and Cover Letter

ORIGINAL TARGET CITIES

ARIZONA
- Phoenix
- Tucson

CALIFORNIA
- San Diego
- San Jose

COLORADO
- Denver

DISTRICT OF COLUMBIA
- Washington

FLORIDA
- Miami

GEORGIA
- Atlanta

ILLINOIS
- Chicago

INDIANA
- Indianapolis

KENTUCKY
- Louisville

LOUISIANA
- New Orleans

MARYLAND
- Baltimore

MICHIGAN
- Detroit

MINNESOTA
- Minneapolis

MISSOURI
- Kansas City
- St. Louis

NEBRASKA
- Omaha

NEW JERSEY
- Newark

NEW YORK
- Brooklyn
- Buffalo

NORTH CAROLINA
- Charlotte

OHIO
- Cincinnati
- Toledo

OKLAHOMA
- Oklahoma City
- Tulsa

OREGON
- Portland

PENNSYLVANIA
- Philadelphia
- Pittsburgh

TENNESSEE
- Memphis

TEXAS
- Dallas
- Houston

UTAH
- Salt Lake City

WASHINGTON
- Seattle

WISCONSIN
- Milwaukee

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
The Ohio State University · 1960 Kenny Road · Columbus, Ohio 43210
Tel (614) 486 3655 Cable CTVOCEDOSU/Columbus, Ohio

July 21, 1978

Dr. M. D. Thomas
Superintendent of Schools
Salt Lake City School District
440 East First South
Salt Lake City, Utah 84111

Dear Dr. Thomas:

We at the National Center for Research in Vocational Education are interested in identifying a set of high schools to participate in a controlled assessment study during the 1978-79 school year. The product to be tested is the Career Planning Support System (CPSS), a systems approach to upgrading career guidance services. CPSS is a comprehensive career guidance development tool that emphasizes program planning, implementation and evaluation. A further description of CPSS will be found in the *CPSS Decision Guide,* copies of which are enclosed. We urge that it be read very carefully by interested high school principals. The assessment study design we are using calls for ten schools to use CPSS and ten to carry on with services as planned for the 1978-79 school year. Essentially, we are substantiating that schools using CPSS have improved planning for career guidance programs significantly more than those who do not use CPSS. The objectives for the assessment of CPSS are noted in Attachment 1.

It is important that the schools using CPSS and those not using it be fairly comparable. Two common characteristics are (1) that all schools participating in the study must be motivated and committed to improving comprehensive career guidance services to students, and (2) that the schools must be comparable on criteria such as stability of school staff, size of the guidance staff, number of students who enter college, drop-out rates, and socioeconomic status. Once a set of schools with these attributes is identified, 20 schools will be assigned randomly to user and non-user groups, ten schools in each. To protect the process of the study, user and non-user schools should not be in communication with each other regarding the study. For now, we need many schools volunteering who are motivated and committed to improving comprehensive career guidance services for students, and who meet the criteria for comparability. This is volunteering with the understanding that, if selected, only one school from your district could be assigned randomly to a user group and one to a non-user group. Enclosed are copies of a School Information Checklist which should be distributed to and completed by those high schools (three or more) in your district which may wish to participate in the assessment study. The completion and return of the School Information Checklist by a school's executive will be considered an application to participate in the study. Each applicant will be notified in writing of the outcome of the final selection.

To defray costs of participation in this study, monies will be set aside for each of the 20 schools involved. Those actually using CPSS will have a budget planned for approximately $5,000, while those in the control group will have a budget planned for approximately $500. A written agreement will be executed between each school and the National Center.

The schools selected to use the product will be expected to commit a person to lead the implementation of CPSS and act as a liaison person with the National Center. This person will average at least a half-time schedule with CPSS, plus a training session at the National Center. Other school personnel will need to participate in the study but not as much time will be involved. User schools also will supply pre- and post-test data through data collection instruments provided by the National Center. A graphic description of a user school's role in this study is in Attachment 2, Design Structure for the Assessment of CPSS.

Similarly, those schools not using CPSS must also have a liaison person who, essentially, will supply information to National Center staff. This person will likely spend the equivalent of 10-15 days during the school year on data gathering and reporting. No time other than survey response (pre- and post-test data) will be needed from other staff.

We invite you to participate in the selection of schools once you have ascertained full commitment to such a study. To answer any questions you may have about the study, a member of the project staff will telephone within the next ten days. Otherwise, direct any comments or questions to James Pearsol, Program Associate, (614) 486-3655, x354. The deadline for applications is August 21, 1978.

We shall appreciate your thoughtful consideration and look forward to further communication with you regarding the proposed assessment study.

Sincerely,

Robert E. Taylor

Robert E. Taylor
Executive Director

RET/yy
Enclosures

APPENDIX I

School Information Checklist

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
The Ohio State University · 1960 Kenny Road · Columbus, Ohio 43210
Tel: (614) 486-3655 Cable: CTVOCEDOSU/Columbus, Ohio

July 20, 1978

Dear Principal:

We at the National Center for Research in Vocational Education are interested in identifying a set of high schools to participate in a controlled assessment study during the 1978-79 school year. The product to be tested is the Career Planning Support System (CPSS), a systems approach to upgrading career guidance services. CPSS is a comprehensive career guidance development tool that emphasizes program planning, implementation and evaluation. A further description of CPSS will be found in the CPSS Decision Guide which accompanies this letter.

To identify those schools which might participate in the study, we have asked superintendents in several large cities throughout the United States to recommend those high schools in their districts which might be motivated to improve career programs and which are comparable among several variables such as size and socioeconomic status. Once interested schools have been identified, ten schools will be randomly assigned to a CPSS user group and ten will be randomly assigned to a non-user group (a control group) for the study.

The attached School Information Checklist is a means whereby we may select schools to participate in the study. If you would like to participate, please return the Checklist in the preaddressed envelope provided.

We shall appreciate your completion of the attached Checklist and look forward to your participation in the site selection process. To answer any questions you may have, a member of the project staff will telephone your office within the next week.

Sincerely,

Robert E. Taylor

Dr. Robert E. Taylor
Executive Director

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Enclosures

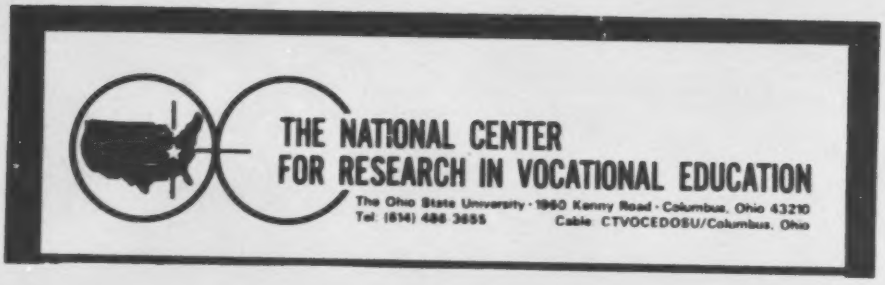
CPSS Assessment Study

School Information Checklist

Directions

We are interested in gathering information about your school for the Career Planning Support System (CPSS) assessment study. The attached checklist is a simple method to collect certain information about your school. Most, if not all, of the information requested may be obtained from school records, for example, average daily attendance. When completing the form, please approximate on those items where you lack sufficient information.

Please complete items one through twenty-one (1-21) as presented. If any of these items (1-21) require clarification or are not applicable, please refer to item 22. Please include any comments in item 22. Thank you for your assistance.


THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
The Ohio State University · 1960 Kenny Road · Columbus, Ohio 43210
Tel: (614) 486 3655
Cable CTVOCEDOSU/Columbus, Ohio

CPSS Assessment Study

School Information Checklist

1. High School: _____

_____

_____

Zip Code

_____

Area Code Phone Number

2. Principal: _____

3. Number of years in position: _____

4. The average daily attendance during the 1977-78 school year:

_____

5. Has the average daily attendance increased or decreased by more than ten percent during the past two years?

_____Yes _____No. If yes, please specify reasons:

6. The number of faculty/staff in the high school during the 1977-78 school year:

teachers_____ counselors_____ administrators_____

7. What are the average years of total experience for faculty/staff?

_____

8. The racial/ethnic composition of the high school's students during the 1977-78 school year:

   a. percentage of Black students _____

   b. percentage of Native American students _____

   c. percentage of students with Asian ancestry _____

   d. percentage of students with Spanish surnames _____

   e. percentage of other non-White students _____

   f. percentage of White students _____

9. Percentage of students in various program (curriculum) areas:

   College Prep _____ Special _____

   General _____ Other _____

   Vocational _____

   (Specify "other") _____

10. What is the dropout rate for your high school? _____

11. Percentage of students who graduated in June 1977 and attended college:

    _____%

12. Turnover rate among faculty at the school:

    _____% per year

13. Is the school considered a leader in the adoption of educational innovations? (Typical indications that a school is a leader are that it has received state or federal funds for more than one project during the last three years or that the school has participated in field tests of product development.)

    _____Yes _____No. If yes, briefly describe the educational innovations that have been adopted during the past three years.

14. How many feeder schools does your school have? _____

15. What is the mean test score(s) on the SAT or ACT for juniors and seniors in your school? If available, use the 1977-78 score reports. If not, use the 1976-77 score reports.

    76-77_____ 77-78_____ SAT V_____ M_____ (Please refer to SAT summary report for your school and check (✓) appropriate year of the report.)

    76-77_____ 77-78_____ ACT Composite_____ (Please refer to ACT High School Profile Report for your school and check (✓) appropriate year of the report.)

16. What is the total population of the attendance area for your school?

    _____

17. What is the estimated average income within your attendance area? (check one)

    $ 5,000 - 10,000 _____

    $10,000 - 15,000 _____

    $15,000 - 20,000 _____

    $20,000 - 25,000 _____

    $25,000 - above _____

18. What grade levels does your school have? _____ 9-12

    or _____ 10-12

19. Does your school district or state have a comprehensive career guidance program model?

    _____Yes _____No

20. If yes, is your school required to use the career guidance program model?

    _____Yes _____No

21. Please list three unique aspects of your school:

22. Items you may wish to clarify or comments:

APPENDIX J

Work Statement

WORK STATEMENT FROM A PURCHASE OF SERVICE AGREEMENT
WITH A COOPERATING SCHOOL DISTRICT

The contents of this work statement include the scope of services provided by The National Center for Research in Vocational Education and the Jefferson County Public Schools for the Assessment of the Career Planning Support System. The effective dates for this proposed effort are September 15, 1978 to June 30, 1979. Amendments to this agreement may be effected through mutual consent in writing by all the signatories affected by the changes.

1.0.0. The National Center for Research in Vocational Education will provide the materials, resources, and services listed in 1.1.0. through 1.6.0.

1.1.0. Two complete sets of the CPSS materials (Coordinator's Handbooks, eight guides, four audiovisual presentations and one package of camera-ready masters). One set will be used by the experimental school for the purpose of the assessment study. The other set will be delivered to the control school once the assessment study is completed.

1.2.0. Three days of pre-service preparation at the National Center for Research in Vocational Education for the experimental school coordinator to familiarize him/her with the CPSS product and to enable him/her to accomplish the evaluation tasks associated with the assessment study.

1.3.0. Technical assistance to the experimental school coordinator as needed, as requested, or as determined by The National Center staff with the identification and resolution of problems associated with the assessment study and the use of the CPSS product. This assistance from the National Center staff will be provided to the site via telephone, mail or travel to the site depending on which method is deemed most appropriate by the National Center's staff.

1.4.0. National Center staff to conduct on-site monitoring and progress assessments and knowledge and attitude posttests.

1.5.0. Sufficient copies of status report forms and knowledge and attitude tests.

1.6.0. Costs reimbursable effort is not to exceed $5,500. Five thousand dollars will be set aside for the experimental school and $500 will be set aside for the control school (refer to budget, attachment A). The payment schedule will be in two installments. The first payment date will be January 15, 1979 in an amount for which invoices have been received. The second payment date will be June 30, 1979 for the remaining invoices.

2.0.0. The Jefferson County Public Schools will provide the materials, resources, and services listed in 2.1.0. through 2.5.2., and will conform to the provisions incorporated in HEW Standard Form 315 (incorporated by reference only).

2.1.0. Monthly, one-page reports due on the first of each month (beginning with December 1, 1978) to include invoices and descriptions of expenses pertaining to the CPSS Assessment Study.

2.2.0. One central administration staff member (not a staff member at either the experimental or control school) to administer the knowledge and attitude pretests to the CPSS Steering Committee at the experimental school.

2.3.0. Experimental School

2.3.1. One permanent staff member released one-half time to coordinate CPSS in the school and to provide evaluative data for the assessment study. It is understood that this will be a regular assignment and not extra duty.

2.3.2. Resources and services to include:

a. Printing (offset, etc.). The total number of pages should not exceed 8.5 times the total number of students in the school.

b. Duplication services (electrostatic, etc.). The total number of pages should not exceed two hundred (200).

c. Office supplies (excluding paper for printing and duplication). Supplies should include two reams of letterhead, 1,400 business-size envelopes imprinted with the name of the school, and postage, if the questionnaires are mailed.

d. Equipment. A filmstrip projector and a cassette tape recorder.

e. Telephone Service. Long distance telephone calls to the National Center as needed.

2.3.3. Time of professional staff, in addition to the school coordinator, as follows:

a. Five to seven faculty/staff, who will serve on the CPSS Steering Committee an average of one and one-half hours per week during the academic year, and who will complete 1 1/2 hours of pre and posttests.

b. No more than 16-20 professional staff members who will serve on the Needs and Resources Assessment Task Forces at an average of two hours per week for an average of 8-10 weeks each.

c. Other professional staff as needed to implement CPSS in the school.

2.3.4. Primary outputs, to include demographic data about school and community, documentation of actual and potential career development program resources, statements of program goals, statements of behavioral objectives, proposals for career development activities, and reports of evaluations of career development activities. One copy of each output and any changes to that output will be provided to the National Center staff on specified deliverable dates.

2.3.5. Secondary outputs to include a report of career development program planning, pre and posttest data, and project logs.

2.3.6. The school may publish and make available information concerning its participation in the assessment study once the assessment study is completed. A copy of each article submitted by the school shall be sent to the National Center after its publication or presentation.

2.4.0. Control School

2.4.1. One permanent staff member released for the equivalent of 10 to 15 days during the school year to gather data and complete reports.

2.4.2. Postage and long distance telephone calls to the National Center as needed.

2.4.3 The outputs shall be a report of career development program planning, both pre and posttest.

2.5.0. Deliverables

2.5.1. Experimental and Control Schools

A. Due Dates: 9/25/78-11/15/78 Career Development Program Status Report

1. One Status Report to be completed by school personnel and delivered to Center project staff during Fall on-site visit at the school (a two-day visit to be arranged between 9/25/78 and 11/15/78 -- two weeks notice will be provided).

2. Due Dates: 5/20/79 - 6/30/79. One Status Report to be completed by school personnel and delivered to Center project staff during Spring on-site visit at the school (a two-day visit to be arranged between 5/20/79 and 6/30/79 -- two weeks notice will be provided).

2.5.2 Experimental Schools

A. CPSS Coordinator Training - Three days training provided by the National Center staff for the CPSS Coordinator, to familiarize him/her with the CPSS product and project deliverables (dates to be arranged prior to utilization of CPSS in the school).

B. Knowledge and Attitude Assessments

1. Due Date: 12/15/78 - to be administered by non-school personnel to the Steering Committee faculty/staff at the first committee meeting.

2. Due Dates: 5/20/79 - 6/30/79 - to be administered to the Steering Committee faculty/staff by Center project staff during Spring on-site visit at the school (a two-day visit to be arranged between 5/20/79 and 6/30/79 -- two weeks notice will be provided).

C. Results of Needs Assessment - Due Date: 3/1/79 -- Tables 40, 41, 42, 43, 44, 45, 46, 47, 48 (see page 25 - Coordinator's Handbook, "Results").

D. Results of Resource Assessment - Due Date: 3/1/79 - Tables 34, 35, 36, 37, 38 and 39 (see page 6, Coordinator's Handbook).

E. Goals Data - Due Date: 3/31/79 - Tables 50, 51, 52 and 53 (see page 35, Coordinator's Handbook, "Results").

F. Career Development Unit (CDU) Data - Due Dates: 5/20/79 - 6/30/79 - Copies of at least two CDUs developed and evaluated as a result of CPSS involvement. Form No. 21 and Tables 54 and 55 (see pages 52 and 57, Coordinator's Handbook). Copies to be delivered to Center project staff during Spring on-site visit at the school (a two-day visit to be arranged between 5/20/79 and 6/30/79 - two weeks notice will be provided).

G. Project Log - Due Dates: Due every two weeks beginning November 15, 1978 and ending June 15, 1979. The logs are brief progress reports and are mailed directly to National Center staff.

Attachment A

ASSESSMENT OF THE CAREER PLANNING SUPPORT SYSTEM

Proposed Budget

September 15, 1978 - June 30, 1979

The following budget depicts the budget areas, in accordance with allowable costs, within which the Jefferson County Public Schools will request reimbursement.

I. Personnel - (This area refers to costs incurred for the time of permanent professional staff participating in the CPSS Assessment Study.) Items listed in this section may include costs for stipends, extra duty, substitute teachers, fringe benefits and partial salaries.

	Item	Estimated Budget
a.	Stipends and extra pay	$5273.00
b.		
c.		
d.		

Description:

Stipends for steering committee members, needs assessment and co ordination.

II. Supplies - (This area refers to costs incurred through the purchase of supplies and telephone service for the CPSS Assessment Study, see 2.3.2. and 2.4.2. of agreement).

	Item	Estimated Budget
a.	Supplies	$47.00
b.	Telephone	$50.00
c.	Stamps	$130.00
d.		
		$227.00

Description:

NOTE: Items III, IV and V require specific requests for permission and prior approval before funds will be allocated.

III. Equipment - (This area refers to costs incurred through the purchase of equipment (direct and indirect costs) for participation in the CPSS Assessment Study).

	Item	Estimated Budget
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____

Description:

IV. Travel - (This area refers to travel costs, if any, incurred by school staff participating in the CPSS Assessment Study).

	Item	Estimated Budget
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____

Description:

V. Other Costs - (This area refers to other costs incurred by the school or school staff as a direct result of participation in the CPSS Assessment Study, i.e., expenses for a retreat for the CPSS Steering Committee).

	Item	Estimated Budget
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____

Description:

ASSESSMENT OF THE CAREER PLANNING

SUPPORT SYSTEM

Jefferson County Public Schools
(School District)

Van Hoose Education Center
(Address)
3332 Newburg Road

Louisville, Kentucky 40218

By: E.C. Grayson Date: 12-1-78
(Signature)

E.C. Grayson
(Typed Name)

Superintendent of Schools
(Title)

APPENDIX K

Joint Dissemination Review Panel Report

Copy Submitted to NIE

PROGRAM AREA: Career Development Program Planning

I. TITLE OF PRODUCT: The Career Planning Support System (CPSS)

II. DEVELOPER: The National Center for Research in Vocational Education

III. FUNDING: National Institute of Education. Testing $340,373

IV. DEVELOPMENT AND TESTING PERIOD: Development: 1971-1976; Testing: 1978-1979

V. BRIEF DESCRIPTION OF CPSS:

Among the priorities identified by the career education movement of the seventies were 1) a need to blend student career development into the mainstream of educational practice, and 2) a need to meet increased accountability demands in the delivery of instructional and counseling services in public schools. To meet these two needs recent research activities have emphasized the importance of systems methodology in properly planning, implementing, and evaluating career development programs (Campbell, 1975; Campbell et al., 1971; Hosford and Ryan, 1970).

Mitchell and Gysbers (1979) reported that an emerging direction for career development and guidance in schools is the guidance system comprised of a series of interrelated planning, design, implementation, and evaluation components. Herr (1979) recommended that guidance at the local school level be based on student needs and planned as a total program with goals, objectives, activities, and student outcomes. A National Vocational Guidance Association Position Paper on Criteria for Career Guidance Programs (1979) stated, "in order to achieve lasting effectiveness, it is important that (career development) program planners follow a comprehensive student needs-based and evaluation-oriented approach to program development."

In response to the need for systematic program planning for student career development programs, the National Center for Research in Vocational Education developed and tested CPSS from 1971 to 1973. A two-year (1974-76) field test of CPSS resulted in important revisions of the materials. Thirty-eight individual high schools, ranging from rural schools of less than 100 to large urban and suburban schools of more than 2,000 students, participated in the field testing. This submission is based on data from an assessment study conducted in 1978 and 1979. The 1978-79 assessment of CPSS involved eighteen high schools in seven states. The purpose of the assessment study was to test the effectiveness of the CPSS materials as a high school career development program support system.

CPSS consists of handbooks, reproducible forms and filmstrips that describe a comprehensive organizational framework and procedural steps a school staff can use to create an accountable, school-wide high school career development program. The following list describes the complete set of CPSS materials:

- The Coordinator's Training Guide is a self-instructional training guide for the part-time CPSS coordinator.
- The Coordinator's Handbook contains instructions that describe step-by-step procedures for managing and implementing CPSS in the high school.
- Camera-Ready Forms are reproducible copies of each form needed for the questionnaires, instructions, CPSS Program Information File, etc.
- Handbooks

  The Advisory Committee Handbook defines the responsibilities and duties of Advisory Committee members (five copies).

Assessing Resources guides a resource leader in directing a task force to collect information on and account for the use of resources in the school and community.

Assessing Needs: Surveying provides instruction for preparing, administering, and collecting survey questionnaires for students, graduates, parents, and faculty/staff (five copies).

Assessing Needs: Tabulation contains instruction on manually tabulating data collected by questionnaires (five copies).

Analyzing Methods directs a methods specialist about the availability and application of guidance methods and how to integrate this knowledge during the construction and review of career development units.

The Manual for Writing Behavioral Objectives is a self-instructional resource for a behavioral objectives specialist.

Writing Behavioral Objectives informs the behavioral objectives specialist about the function of behavioral objectives in the construction of career development units.

Producing Career Development Units (CDUs) provides direction for developing career guidance/development activities.

- Filmstrip/Audio Tape Presentations include:

  AV-1: "An Orientation to CPSS"--orients interested persons to CPSS.

  AV-2: "Shaping Program Goals"--gives an overview of how the needs and resources assessments lead to goals for a school.

  AV-3: "Behavioral Objectives"--accompanies the behavioral objectives manual.

  AV-4: "Producing CDUs"--gives an overview of the career development unit process.

Claims of effectiveness. CPSS is intended as a set of tools to assist with institutional changes in planning for career development programs in high schools. It is assumed that the school staff using CPSS is motivated to plan for the school's career development program. The main claim of this submission is stated below.

> Use of the CPSS materials for one academic year enables a high school staff to implement a systematic planning process for student career development programs.

For the purposes of this submission "systematic planning process" includes the following elements:

- Establishment of an organizational structure facilitating a career development program, to include clearly designated leadership and permanent active committees and work groups.
- Assessment of the career development needs of local students and use of the results of the needs assessment in the career development program.
- Creation of explicit career development goals reflecting assessed student career development needs, listed in order of importance.
- Creation of student behavioral objectives designed to implement the goals.
- Creation of student activities to achieve the objectives and goals.

Career development in the CPSS perspective is defined as the process by which an individual student acquires the basic, non-technical skills needed for functioning

in the world of work. A career development program is a sequence of activities designed to help foster student career development.

Intended users of CPSS. High school personnel and students cooperate in use of CPSS.

Costs to schools. Table 1 shows cost estimates for using CPSS during the first year and subsequent years. The figures could be converted to costs per learner by dividing by the number of student users, but this ratio does not seem like a useful statistic since CPSS is designed to affect directly the institution, and the main claim of this submission refers to institutional change, not learner change. Because costs may vary among schools, a range is entered in the table.

TABLE 1. COST ESTIMATES PER SCHOOL

	First Year (Nonrecurring Costs)	Subsequent Years (Recurring Costs)
Personnel	2900--7250	2175--2900
Staff Training	0	0
Special facilities	0	0
Equipment	0	0
Consumables	123	61
Other costs	260	60
TOTAL COSTS	3283-7633	2296--3021

VI. EVIDENCE OF EFFECTIVENESS

Design of the field test. Data supporting the claim for effectiveness were gathered, using a pre-post, experimental-control group design, on 18 high schools. The high schools were located in Arizona, Maryland, Illinois, Kentucky, Tennessee, Florida, and Colorado. Table 2 displays descriptive statistics for the test sites. Ten of the 18 participating schools used CPSS for one academic year, and the remaining eight did not. In this document CPSS users frequently are referenced as experimental schools and nonusers are termed control schools. Measurements on all variables related to the main claim were taken before and after the school year in which experimental schools used CPSS.

TABLE 2. CHARACTERISTICS OF TEST SITES

Average of Characteristic	Control Schools	Experimental Schools	t-value
Size of student population	1916	1943	.074
Ratio of faculty & staff to student pop.	19.49	17.64	1.540
ACT/SAT scores*	15.67	16.84	.748
Estimated family income	$12000	$13125	.607
Drop-out rate	7.4%	10.0%	1.375
Percent white	38%	51%	.814

NOTE: Table entries are averages over the control or experimental schools, as labeled. Experimental school refers to a school that used CPSS during the study, and control school refers to a school that did not use CPSS.

*Five schools made SAT scores available, and the remaining 13 submitted ACT averages. The five SAT scores were converted to the metric of ACT by dividing them by the ratio of the average over schools SAT to the average ACT.

Each school provided a part-time coordinator who was responsible for the preparation and completion of data collection forms and who served as the on-site contact person with the National Center staff. In the experimental schools this contact person also served as the CPSS coordinator. The experimental school coordinators received a three day training in CPSS procedures in November 1978. The training was conducted at the National Center by project staff. Training normally is not necessary for use of CPSS; it was provided in this instance to help accelerate the normal process of creating a career planning system, in order to complete the study within the specified time period.

Both experimental and control schools were monitored by monthly telephone calls and one site visit in February, 1979. This was in addition to pretest and posttest site visits to all schools in November or December of 1978 and May or June of 1979. The telephone calls and site visits included very little technical assistance. Experimental school coordinators were requested to complete project logs twice a month, describing the progress of CPSS in the school.

Participating schools volunteered in response to a national publicity campaign. The original intent was to assign participating schools at random to experimental and control conditions, but due to insistence of local school administrators random assignment occured in only four instances. In the remaining cases, local school officials made the determination. Experimental schools were paid 5000 dollars to defray expenses, mostly to pay for personnel time. Control schools were paid 500 dollars and given a set of CPSS materials at the end of the study.

Self selection of schools into the study at first appears to threaten the external validity of the results, but, on reflection, probably poses no such threat. Users of CPSS certainly will all be self-selected; therefore, the sample is drawn from the universe of probable users. Inability to control assignment of schools to experimental and control conditions poses some threat to the internal validity of the design. The pre-post nature of the design, equivalence of the experimental and control schools on key variables (see Table 2), and the magnitude of the gains for experimental schools suggest that the results are not likely due solely to nonrandom assignment, however. The main threat to the internal validity of the study is the interaction between those selected into the experimental group and "maturation" (i.e., changes that would occur without the treatment, but only in experimental schools) (Campbell and Stanley, 1966). While interaction between "maturation" and selection cannot be entirely ruled out as a contributing factor in experimental school gains, the gains reported below are too large reasonably to be attributed solely to the interaction of maturation and the treatment variable. These gains are all over one standard deviation.

Measurement. Two data collection forms, the Career Development Program Status Report and the Verification Checklist, and one rating instrument, the Career Development Program Rating Instrument, were developed and used for the study. The Status Report and Verification Checklist were used to collect information from the field sites. The information was then reviewed and rated by a fifteen member review panel with acknowledged expertise in career development related areas. The review panel members individually answered questions on the Rating Instrument by referring to information collected on the Status Report and Verification Checklist for each school. All analyses reported in this submission were based on data drawn from the Rating Instrument.

The Career Development Program Status Report and the Verification Checklist were developed by project staff. A review of the forms by external consultants

indicated that the forms provide information related to the elements of a systematic career development program and have content validity.

The Status Report was completed by school personnel in all schools who documented the extent to which their existing career development program planning reflected the basic components of systematic career development program planning. These data were collected before experimental school coordinators were trained. The completed Status Report was reviewed on-site by project staff and missing data were obtained. Examples of the type of information collected through the Status Report include data about career-education goals, assessment and evaluation related to career education, and student career-development activities. Career development activities include, but are not limited to, curriculum units, visits to local businesses, and career days.

The Verification Checklist provided a means by which project staff could corroborate, clarify, and expand the information recorded on a school's Career Development Program Status Report. During the pretest and posttest site visits, a National Center staff member completed the checklist with school personnel assistance, and both persons signed the completed form indicating agreement on the accuracy of the information. Examples of information gathered on the Verification Checklist include data about career-education needs, career-education goals, and committee organization related to the career education of students.

The Rating Instrument was developed by project staff with the assistance of an external instrument design specialist. Two factors basic to the design of the rating instrument were: (1) inclusion of items that were clearly answerable given the descriptive information that was being rated, and (2) the exclusion of items that did not allow control schools a fair opportunity to receive a high rating.

The Rating Instrument is divided conceptually into two major parts. Part One asks questions concerning specific facts describing the school's career development program planning. Detailed questions are asked about the conduct of needs assessment, goal formation, objective writing, student activities, and organizational structure. Part Two contains six summary questions asking raters to form broad judgments concerning each of the five elements of a systematic planning process for career development listed on page 2 of this submission. The sixth question in Part Two requests a judgment regarding the overall quality of the career development program. Part One of the Rating Instrument, thus, is designed to familiarize thoroughly each expert rater with the facts, in preparation for the judgments requested in Part Two.

A group of fifteen eminent persons in fields related to career development research and practice was assembled at the National Center to assist with interpretation of the information collected from the field sites. Panelists completed two twenty-one page rating instruments for each participating high school. The first completion provided a description of all schools at the beginning of the school year, 1978-79, and the second completion described the career development program in all schools at the end of the school year. During the year the experimental schools used CPSS materials and the control schools did not. It should be noted that all identifying information, e.g., state, city, school, name, address, and dates had been removed from the data sources prior to the ratings.

At least three panelists were assigned at random to rate each experimental and control school. Assigning more than one rater to each school permits numerical assessment of reliability of the ratings and yields more accurate results than could be obtained from a single rating per school. Pretest and posttest ratings for each school were done by the same group of panelists. Panelists were given

no information about the nature of the design prior to the rating session. In particular, experimental and control schools and the pre-post feature of the design were not identified to panelists. In a final debriefing session, after all rating activities had been completed, the panelists were told that they had participated in an assessment study of the Career Planning Support System. They were given copies of CPSS materials, a study abstract, and informed of all aspects of the study. The panelists indicated that they had neither surmised the nature of the study nor recognized that they had rated pre and posttest data from the same schools.

The main reason for use of a panel of judges is related to the nature of the subject matter. Few people would doubt that efficient organization and planning comprise important aspects of high school career development programs. Yet the important features of efficient organization and planning remain uncodified in sufficient detail to permit completely objective measurement. In such instances, human judgments are essential. Hence, a panel of individuals was assembled with the experience, training, and reputation to provide the most accurate judgments available.

Because of their importance to the presentation, the six questions addressed by the panelists are reproduced verbatim below.

1. Estimate the extent to which the school staff was organized to plan systematically a comprehensive career development program by evidence of clearly designated leadership; administrative cooperation; and permanent, active groups and committees.
2. Estimate the extent to which a student career development needs assessment was conducted, tabulated, properly interpreted, and the data utilized for planning the career development program.
3. Estimate the extent to which a comprehensive set of ordered career development goals reflecting assessed student career development needs were developed and used in planning, implementation and evaluation of the program.
4. Estimate the extent to which a set of behavioral objectives was developed reflecting specific goals and containing a clear statement of the intended audience, behavior, situation and standard of mastery.
5. Estimate the extent to which career development activities were developed that reflect student needs, goals, and associated objectives, and that indicate methods, target student group and outcome measures by referring to the two attached career development activities.
6. Based on the available information (including all career development activities), rate the overall quality of the school's career development program.

To answer these questions, raters referred to all information on the Status Report and Verification Checklist from each school. Thus, raters had at their disposal data regarding schools' student career development needs and goals, career development activities designed for use with students, and organization of career-development program planning. Ratings for the first five of these items were recorded on a five point scale ranging from "limited extent" (scored 0) to "great extent" (scored 4). Ratings on the overall quality were also recorded on a five point scale ranging from zero to four, but the two extreme points were labeled "very low quality" and "very high quality."

The unit of analysis for all statistical results is the school. A score describing each school on each variable was calculated by forming the average over the three or four raters who rated each school. Agreement among raters for a given school, thus, indicates the reliability of the scores, and, conversely, disagreement among raters indicates unreliability. The discrepancies among raters of a given school can be compared to differences in average ratings across schools. This basic idea forms the conceptual basis for calculating reliability coefficients based on an analysis of variance model (see Winer, 1971: 283 ff). The idea is to compare a mean-square within schools to the mean-square between schools. Since the object of the design is to minimize pretest differences among schools, these calculations are based on posttest scores only. This procedure is quite analogous to calculation of reliability coefficients from student scores on a test following a curriculum unit, because a "floor" effect artificially deflates reliability calculations derived from pretest scores. The point is, that there is very little variance between schools on the pretest; all schools score low. The calculations omit consideration of "anchor points" (Winer, 1971: 289 ff), thus yielding somewhat conservative estimates of reliability. The formula used approximates an unbiased estimate of reliability, assuming no anchor point differences among raters (unlike correlational methods such as split half or coefficient alpha, which are biased downward).

Reliability of these items is uniformly quite high. The numerical values range from .829 to .932, and average .881 (see Figure 1).

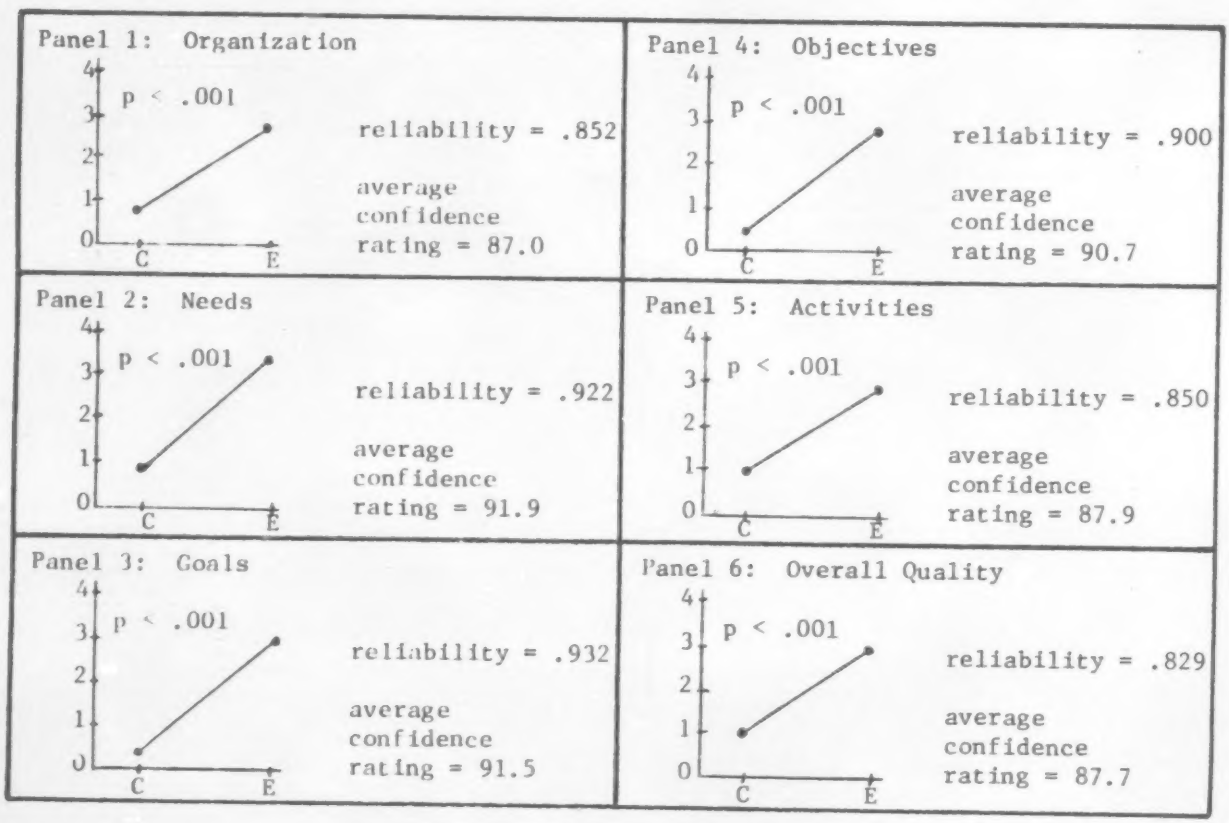
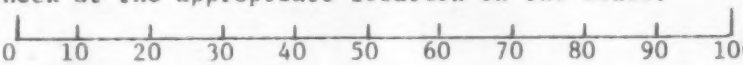


FIGURE 1. ANCOVAs, RELIABILITY, AND CONFIDENCE RATINGS FOR SIX SUMMARY MEASURES.

In addition to reliability coefficients based on agreement among different raters of the same schools, panelists were asked to estimate their confidence in each rating they made. The confidence rating was the same for each question. Raters were asked to place a check along a scale from zero to 100 indicating their judgments regarding the likelihood that their answers were accurate. The format of the confidence rating is reproduced below.

CONFIDENCE RATING: Please estimate the probability that your answer is correct by placing a check at the appropriate location on the scale.



no confidence ..... complete confidence

The average confidence ratings of panelists is quite high, ranging from 87.0 to 91.9 percent, thus reinforcing the reliability calculations. In spite of the need for approximate judgments, therefore, it is concluded that available evidence is consistent with the view that the measurements are accurate to within tolerable limits.

Data analysis methods. The major hypothesis in this study is that school staffs using the Career Planning Support System will produce greater change toward implementing a systematic planning process for career development programming than will school staffs not using CPSS. The statistical method for assessing this hypothesis is analysis of covariance (ANCOVA). The dependent variables for the ANCOVA are posttest scores describing the planning process of each school at the end of the experiment. There are two independent variables including one categorical factor--experimental condition defined by the use or nonuse of CPSS--and one covariate defined as the pretest score corresponding to the posttest dependent variable. Conceptually, the ANCOVAs describe differences in posttest scores between schools using CPSS and schools not using CPSS, under statistical control for the pretest score.

Although it does not appear to be widely recognized, the ANCOVA model can be viewed as a model of change. Conceptually, the ANCOVA can be viewed as expressing the following hypothesis: Change over the period of the experiment is greater for schools using CPSS than for schools not using CPSS, when statistical controls for the effect of the starting point (pretest scores) are applied.

Results. The major results of the study are summarized in Figure 1. Each of the first five panels of the figure summarize the results for one element used to define a systematic career planning process, and the sixth panel summarizes judgments of the overall quality. The panels of the figure are numbered and labeled to correspond to the questions reproduced on page 6 of this submission.

The graphs display plots of mean differences in posttest scores between experimental schools (E) and control (C), as adjusted statistically by the analysis of covariance for pretest scores on the dependent variable. Alternatively, as noted above, these graphs may be interpreted as differences in change from pretest to posttest, adjusted for differences in starting point. The vertical axis of these graphs represent scores on the six items. The horizontal axis does not reflect a continuous scale. Rather, the lefthand point (labeled C) corresponds to the control group, and the righthand point corresponds to the experimental group (labeled E).

This positioning of E and C is arbitrary, but was selected so that a positive slope indicates support for the main hypothesis: that experimental schools show larger gains when adjusted for starting point than do control schools. All six graphs do show a substantial positive slope, thereby lending support to the hypotheses. All statistical tests are highly significant, with probabilities less than .001. (Reported probabilities are for the main effect of the experimental variable, after adjustment for the covariate.)

Whenever random assignment to treatment groups cannot be realized, observed differences between treatment groups, in theory can be due to nontreatment variables. The standard methodology for handling objections of this sort is to introduce some type of statistical control for a small group of variables that are likely candidates to account for observed differences between treatment groups. In the present case, the sample size is small enough to render such procedures of dubious value. One may observe, however, bivariate relationships between selected "control" variables and the treatment variable. In the present study the treatment variable is defined by the two categories--used CPSS and did not use CPSS. Averages on the following variables were compared statistically for users and nonusers of CPSS: student population size, ratio of faculty and staff to students, academic test scores, drop-out rate, percentage of the student body who were minority group members, and a rough estimate of family income of the student body. As shown in Table 2, in none of these five tests were statistically significant differences observed. Hence, it is concluded that the differences between users and nonusers of CPSS on the six criterion variables are not due to any of these five characteristics of schools.

Educational importance. There are two factors related to the educational importance of the results. First, are the gains of sufficient magnitude to be nontrivial? Secondly, does CPSS address an important educational need?

Widespread application of standard score units renders them useful because of implicit standards based on long experience regarding the magnitude of change required to indicate substantive importance. Table 3, therefore, presents the results shown in Figure 1 given in standard score units. The calculations were carried out with the mean and standard deviation of each variable calculated over pretest and posttest and over experimental and control groups. One might prefer using the pretest means and standard deviations because these values more accurately reflect the general population of schools, the vast majority of which have not used CPSS. Reliance on the overall mean and standard deviation show the results in a conservative light, however, since the pretest standard deviation is, for every variable, considerably smaller than the overall standard deviation. Dividing by the smaller standard deviation would magnify differences between experimental and control schools. In summary, Table 3 gives each point on the corresponding graph in Figure 1 in standard score units, using the overall mean and standard deviation of each variable to calculate standard scores.

The results in Table 3 amplify the graphic presentation. The tabulations show that in every instance, after adjusting for pretest scores by analysis of covariance, the posttest experimental schools are over one standard deviation above the grand mean; whereas, posttest control schools are one-third to three-fifths standard deviations below the mean. Effects of this magnitude due to a "treatment" are seldom observed in social research. It is concluded, therefore, that the magnitude of the standard scores indicates educationally important gains for the experimental schools.

TABLE 3. STANDARD SCORE MEANS FOR ANCOVAs

Panel 1: Organizational structure Did Not Use CPSS = -.38 Used CPSS = 1.40	Panel 4: Objectives Did Not Use CPSS = -.42 Used CPSS = 1.35
Panel 2: Needs Did Not Use CPSS = -.46 Used CPSS 1.36	Panel 5: Activities Did Not Use CPSS = -.48 Used CPSS = 1.19
Panel 3: Goals Did Not Use CPSS = -.62 Used CPSS = 1.42	Panel 6: Overall quality Did Not Use CPSS = -.31 Used CPSS = 1.34

The second aspect of educational significance is the need addressed by CPSS. As noted in the opening paragraphs of this submission, the CPSS materials were developed in response to a need for improved career development planning in schools. This need has been expressed repeatedly in a variety of professional forums representing several professional specialties. Prior to development of CPSS, a consensus developed which reported that systematic planning was an essential ingredient in improving career development programs. The CPSS materials are designed to instruct school staffs in the use of a systematic planning process and development of associated products for building career development programs in high schools. The data in this submission demonstrate that the materials do enable staffs to create a systematic planning process.

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APPENDIX L

Acknowledgements

ACKNOWLEDGEMENTS

The National Center wishes to thank the following people for their participation in the *Career Planning Support System Assessment Study, 1978-79.*

District Superintendent and/or Coordinator

ARIZONA
Elanny Luty, Superintendent
Globe Public Schools, Globe

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Miriam Stoodt, Principal; Alice Bryant, Coordinator
*South Dade Sr. High School, Homestead

Nicholas Borota, Principal; Paul Duncan, Ass't. Principal
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Jacqueline Simmons, Principal; Landon Cox, Coordinator
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Joseph Smith, Principal; Mildred Losee, Coordinator
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Joseph McPherson, Principal; John Preli, Coordinator
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Kathleen Luchs, Principal; Myrna Goldberger, Coordinator
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Raleigh-Egypt High School, Memphis

* experimental school

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